



Programmable Controller  
SYSMAC CJ Series  
Position Control Units (High-Speed type)  
**CJ1W-NC214/414**  
**CJ1W-NC234/434**

Cat. No. R156



AC Servomotors/  
Servo Drives  
**G Series**

Cat. No. I814



AC Servomotors/  
Servo Drives  
**SMARTSTEP 2**

Cat. No. I813

NEW

AC Servomotors/Linear Motors/Servo Drives

# G5 Series

The Preeminent Servo That Revolutionizes Motion Control



**G5 Series**

» EtherCAT

» High Speed and High Precision

» International Safety Standards

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**SYSTMAC**  
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**

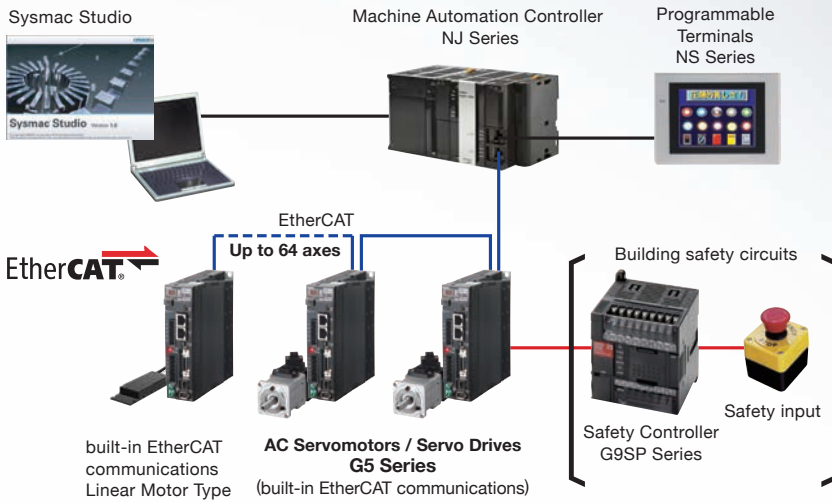
**Advanced autotuning**



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

## System Configuration Example

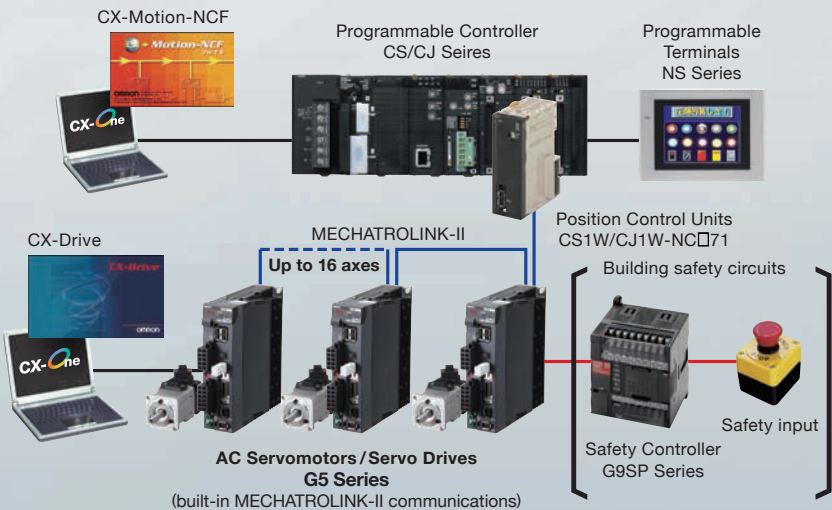
### EtherCAT Communications



### General-purpose Inputs



### MECHATROLINK-II Communications



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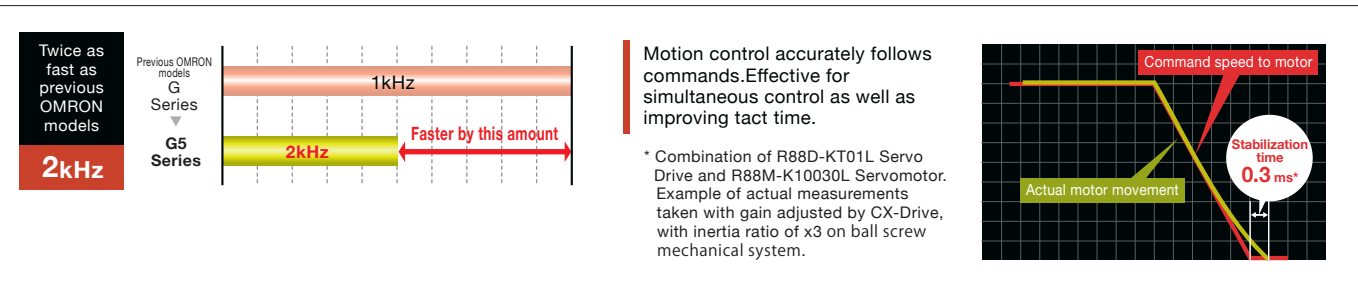
# Provide Tact Time Improvement and Hig



## Industry Top-class Tracking Performance

### Speed Response Frequency of 2 kHz

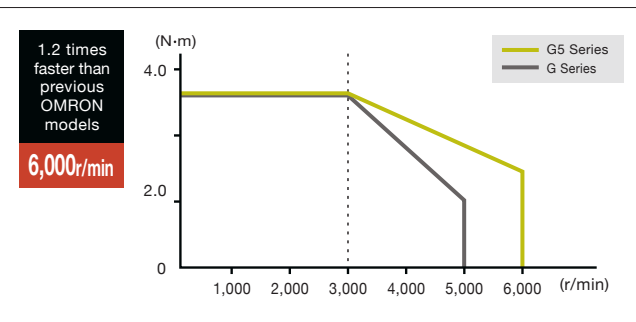
Speed response is representative of servo system characteristics. In the G5, the industry's fastest response has been achieved at 2 kHz. By improving the speed response by twice compared to previous OMRON models, the stabilization time has been shortened and this contributes to tact time reduction.



## Reduced Tact Time with Higher Speed

### Maximum rotation speed : 6,000 r/min\*

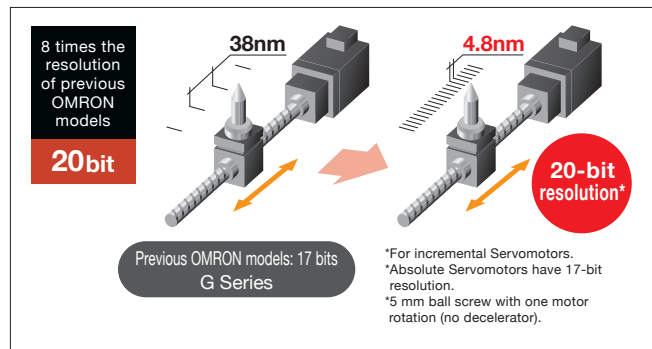
The maximum rotation speed of R88M-series Servomotors has increased to 6,000 r/min, resulting in high-speed positioning that can reduce tact time. \*Applicable to 100 V/200 V models with 750 W or less.



## Best Positioning Accuracy

### Featuring a 20-bit high-resolution incremental encoder

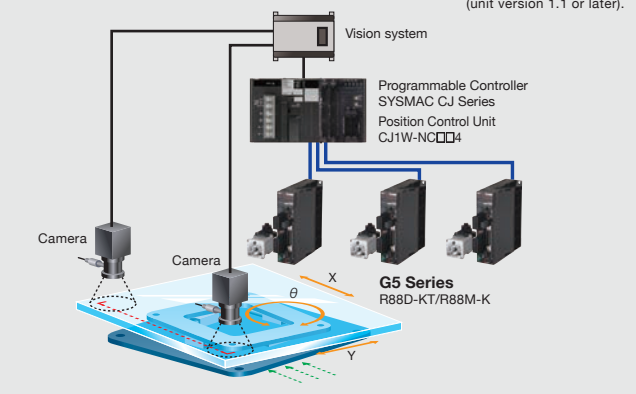
High-precision positioning can be achieved with the built-in encoder, 8 times the resolution of previous OMRON models at 20 bits.



## 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.

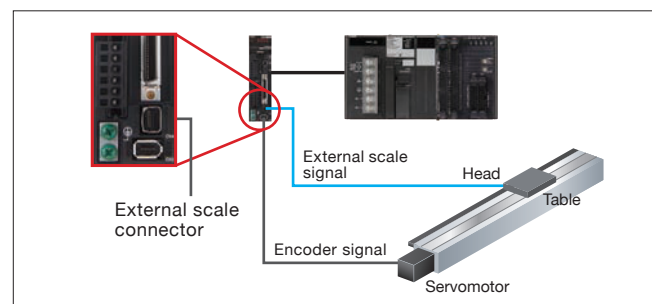
Note: Using a CJ2 CPU Unit (unit version 1.1 or later).



## 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.)



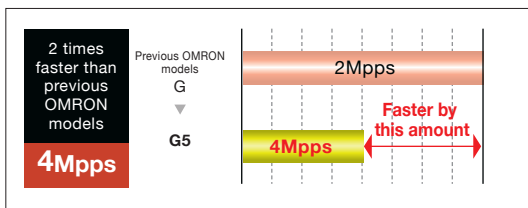


# Safety Motion Control That Provides Safety and Reliability

## High-speed and High-precision Positioning

### Pulse input response frequency: 4 Mpps

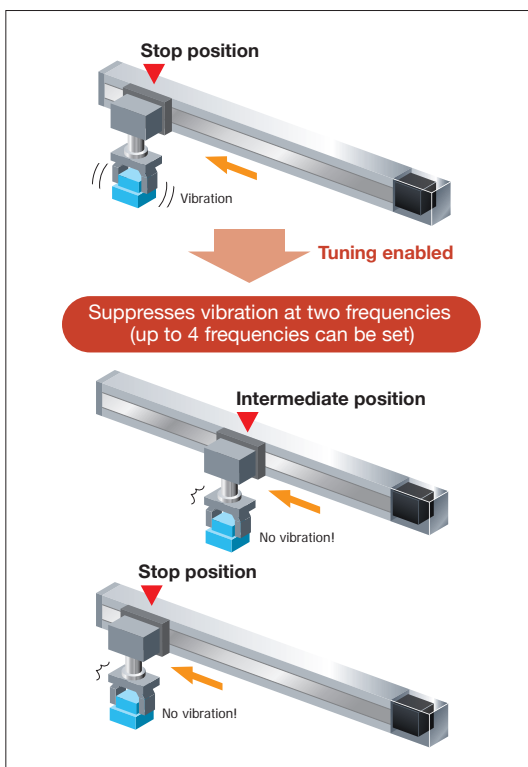
The Servo Drive response to command pulses is 4 Mpps, twice that of previous OMRON models. Response delays are thus reduced enabling high-speed and high-precision positioning.



## Ideal for Applications That Require High Accuracy

### Improved vibration control function

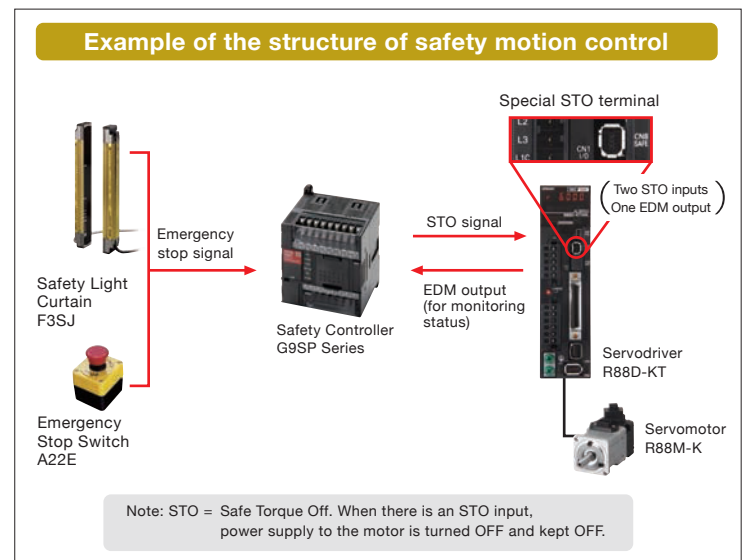
With the vibration control function, if the tip of the device is vibrating, the vibration frequency can be set to remove the vibration. It can also be used to suppress vibration resulting from starting and stopping the device, allowing precise movement.



## Conforms to the Latest International Standards

### Safety and Productivity

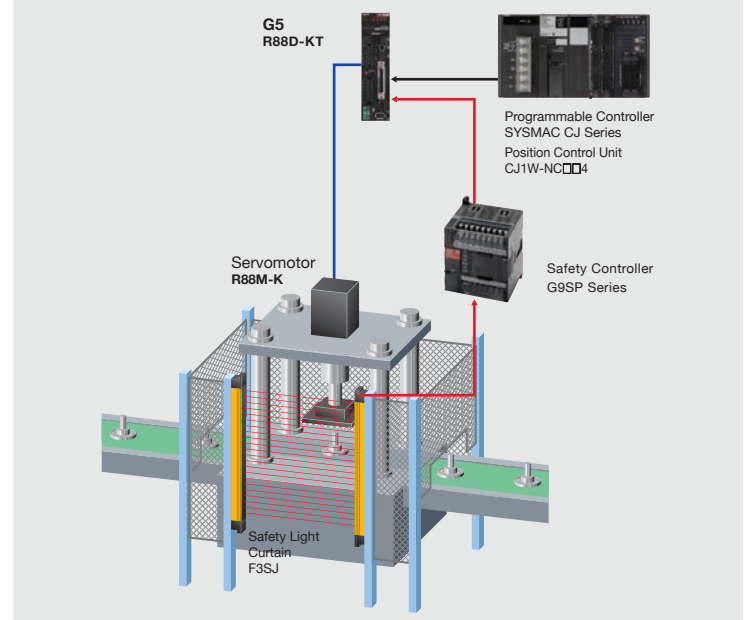
The G5 was the first to acquire international standard IEC 61800-5-2 (STO) for motion control in the industry within Japan. It also conforms to the European Directives ISO 13849-1(PLC,d) \* and EN 61508 (SIL2). Safety control circuits can be constructed with the Servo Drive, delivering both safety and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

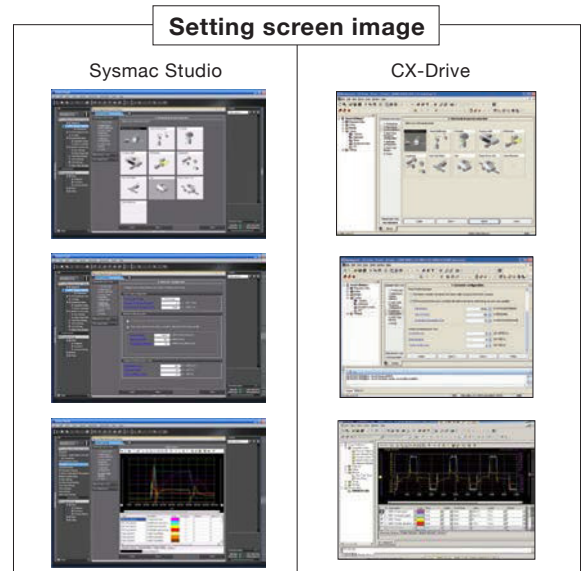
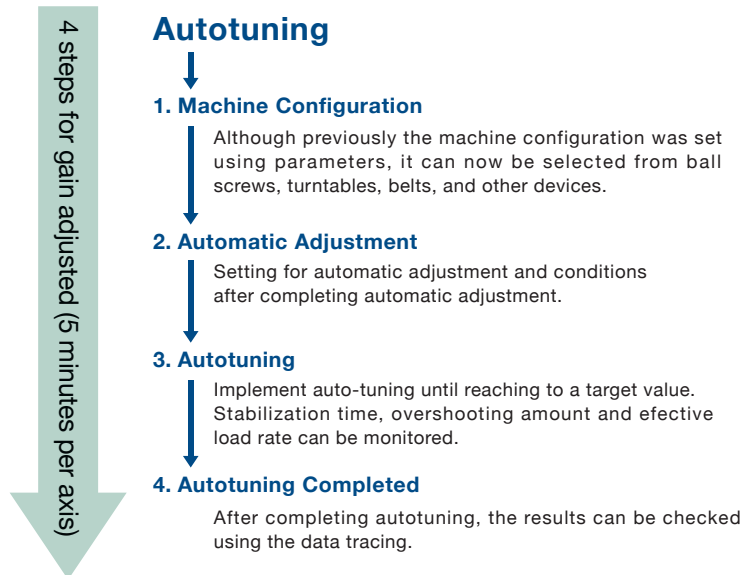
The required Support Software depends on the Controller to connect. Please check the following table when purchasing the Support Software.

| Item                 | Omron Machine Automation Controller System  | Omron PLC System  |
|----------------------|---|---|
| Controller           | NJ-series   | CS, CJ, CP, and other series  |
| AC Servomotor/Drives | G5-series<br>• EtherCAT Communications (Unit version 2.1 or later recommended)<br>• EtherCAT Communications Linear Motor  | G5-series<br>• EtherCAT Communications<br>• EtherCAT Communications Linear Motor<br>• General-purpose input type(PulseTrain or Analog inputs)<br>• MECHATROLINK-II Communications   |
| Software             | <b>Automation Software Sysmac Studio</b><br>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.<br><br><Connecting method with the Servo Drive><br>- Connection via the NJ | <b>FA Integrated Tool Package CX-One</b><br>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.<br><br><Connecting method with the Servo Drive><br>- Direct connection with the Servo Drive.<br>- Connection via a PLC (possible with the Servo Drive with built-in EtherCAT communications function) |

### Simple Gain Adjustment

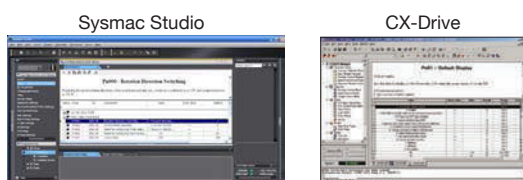
#### Quickly adjust the gain using a wizard.

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.



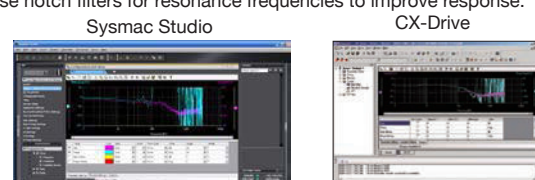
### Editing Parameters

- 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

### Setting screen image

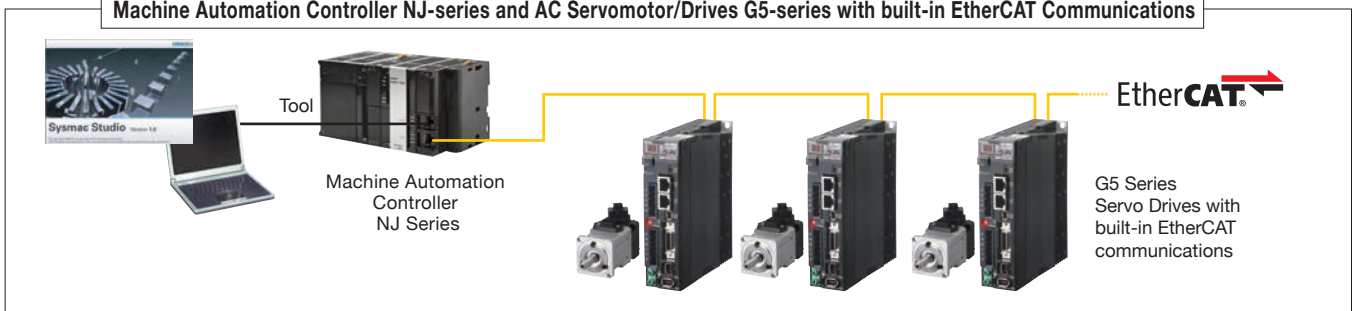
Setting screen image

Sysmac Studio

Setting screen image

CX-Drive

### Machine Automation Controller NJ-series and AC Servomotor/Drives G5-series with built-in EtherCAT Communications



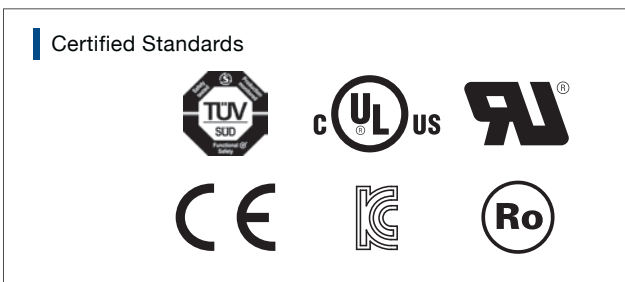
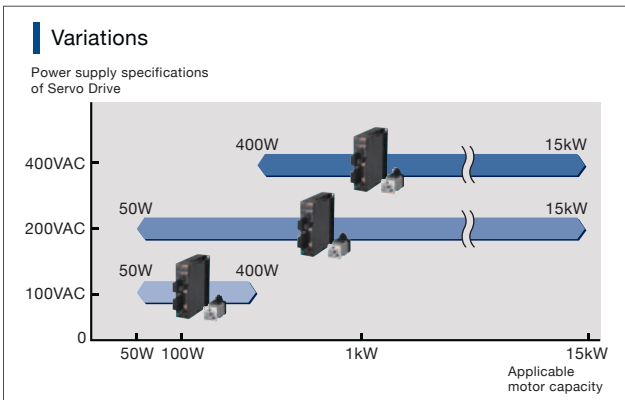


# Easy Adjustment and Reduce works to System Start-up

## 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.



## 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\*

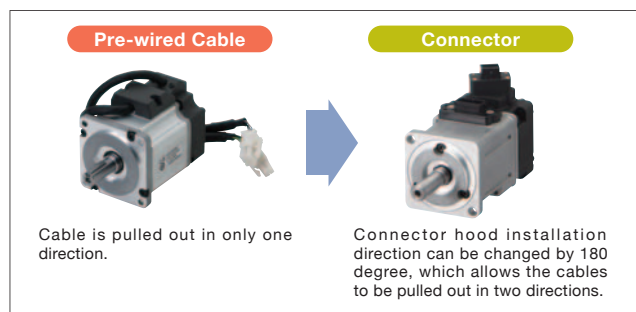
A function has been provided that monitors the causes of why the Servo motor does not move even though a rotation command has been sent.

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

## Flexible cable pull-out direction

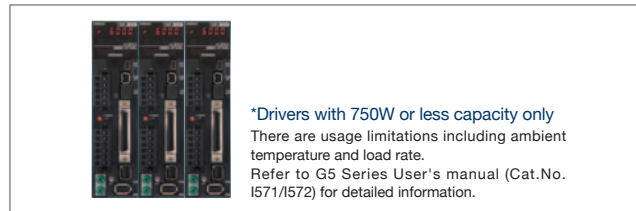
### Direct connectors for power cable, encoder cable, and brake cable connection.

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.



## Side by side installation to save space

Possible to install multiple drivers side by side.



## 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)



## 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  $\mu\text{m}$  of scale resolution for serial communications: 4 m/s\*

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

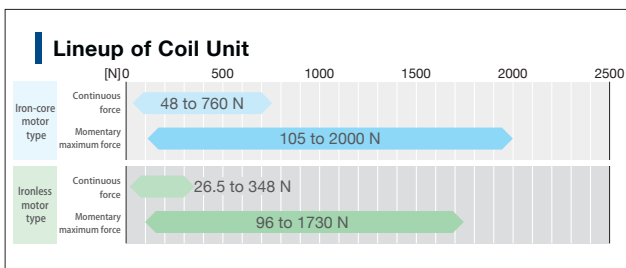
Available linear scale

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

## Selectable motors suitable for device

### Iron-core motor type and ironless motor type

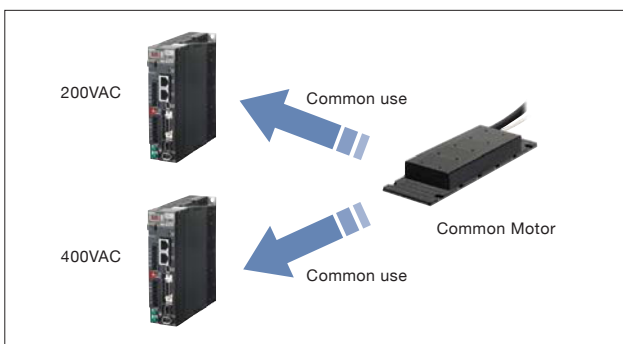
You can choose between compact and high-thrust iron-core motor type and cogging-free ironless motor type with excellent speed stability



## 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.



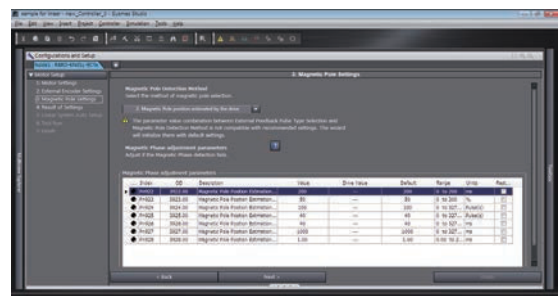
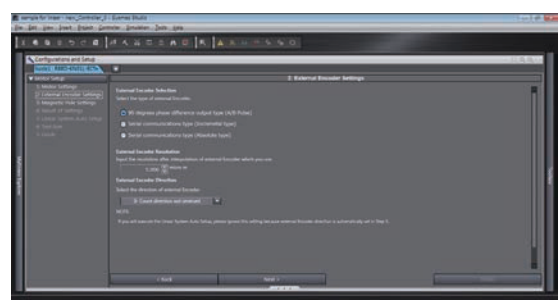
## Quick setup

### 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 v 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  |
|                      |  | R88D-KN□-ECT  | R88D-KN□-ECT-L  | R88D-KT  | R88D-KN□-ML2  |
| Power supply         | 100VAC                                     | Single-phase   | Single-phase   | Single-phase  | Single-phase   |
|                      | 200VAC                                     | Single/Three-phase    Three-phase  | Single/Three-phase    Three-phase  | Single/Three-phase    Three-phase   | Single/Three-phase    Three-phase  |
|                      | 400VAC                                     | Three-phase  | Three-phase  | Three-phase   | Three-phase  |
| Motor Capacity/Force | 100VAC                                     | 50 W   100 W   200 W   400 W   | 26.5 N   48 N   53 N   58 N   96 N   117 N   160 N   175 N   232 N                               | 50 W   100 W   200 W   400 W  | 50 W   100 W   200 W   400 W   |
|                      | 200VAC                                     | Single-phase   | —  | —   | —  |
|                      |  | Single/Three-phase   | 50 W   100 W   200 W   400 W   750 W   900 W   1 kW   1.5 kW                                     | 26.5 N   48 N   53 N   58 N   96 N   117 N   160 N   175 N                                  | 50 W   100 W   200 W   400 W   750 W   900 W   1 kW   1.5 kW                                     |
|                      | 400VAC                                     | Three-phase  | 2 kW   3 kW   4 kW   4.5 kW   5 kW   6 kW   7.5 kW   11 kW   15 kW                               | 232 N   240 N   320 N   348 N   608 N   760 N   | 2 kW   3 kW   4 kW   4.5 kW   5 kW   6 kW   7.5 kW   11 kW   15 kW                               |
| 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 mode switching                     | Mode switching   | Mode switching   | Mode switching  | Mode switching   |
|                      | Tuning functions                           | Vibration control  | Vibration control *1   | Vibration control *1  | Vibration control *1   |
| 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   |
|                      | Servo Drive functions                      | Fully closed   | Fully closed   | Fully closed  | Fully closed   |
| 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

|   |   |  |  |
|---|---|--|--|
|  <b>ECT:</b> EtherCAT high-speed Servo communications motion network.  |  <b>Pulse train:</b> The speed and travel distance are input to the Servo as pulse trains.   |  <b>Analog:</b> The speed and torque are input to the Servo as analog signals.  |  <b>ML2:</b> MECHATROLINK-II high-speed Servo communications motion network. (See note).  |
|  <b>Position control:</b> Control is applied to move to the target position and then stop at the target position.  |  <b>Speed control:</b> 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. |  <b>Torque control:</b> Control is applied to adjust the rotational force. Torque control is suitable for applications such as parts insertion, pressing, and screw tightening. |  <b>Command control mode switching:</b> Switching is possible between any two of the three control modes: position control, speed control, and torque control.                              |
|  <b>Vibration control function:</b> Vibration is suppressed by automatically setting a filter for the vibration frequency.                                 |  <b>Autotuning:</b> This function automatically sets an appropriate gain based on the rigidity setting of the machine load; 32 levels of rigidity settings are possible.   |  <b>Absolute output:</b> When the Controller power supply is turned ON, the Controller reads the Servo absolute position data to restore the absolute position.                 |  <b>Incremental output:</b> 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. |
|  <b>Adaptive filter:</b> The machine load inertia is calculated in realtime and the result is used to automatically set the optimum gain.                  |  <b>Safety function:</b> Conforms to IEC 61800-5-2 (STO), EN ISO 13849-1:2008 (PLC,d), ISO13849-1:2006(PLC,d) and EN 61508 (SIL2).   |  <b>Fully closed (fully closed loop control):</b> Positioning using direct feedback of the current position from the external scale.  |  <b>Torque limit:</b> Switching is possible between the first torque limit and the second torque limit to limit the Servomotor output torque.   |
|  <b>Internal set speeds:</b> Speed control according to the internal set speed that is set for the parameter. 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



### G5 Series Linear Motor

Servomotors with EtherCAT Compatible Linear motor Type

R88L-EC-FW-□

R88L-EC-GW-□



| Motor type | Cylinder type        |                      |                      |
|------------|----------------------|----------------------|----------------------|
|            | 1000r/min            | 2000r/min            | 3000r/min            |
| 50W        |                      |                      | ABS<br>INC<br>INC 20 |
| 100W       |                      |                      | ABS<br>INC<br>INC 20 |
| 200W       |                      |                      | ABS<br>INC<br>INC 20 |
| 400W       |                      | ABS<br>INC<br>INC 20 | ABS<br>INC<br>INC 20 |
| 600W       |                      | ABS<br>INC<br>INC 20 |                      |
| 750W       |                      |                      | ABS<br>INC<br>INC 20 |
| 900W       | ABS<br>INC<br>INC 20 |                      |                      |
| 1kW        |                      | ABS<br>INC<br>INC 20 | ABS<br>INC<br>INC 20 |
| 1.5kW      |                      | ABS<br>INC<br>INC 20 | ABS<br>INC<br>INC 20 |
| 2kW        | ABS<br>INC<br>INC 20 | ABS<br>INC<br>INC 20 | ABS<br>INC<br>INC 20 |
| 3kW        | ABS<br>INC<br>INC 20 | ABS<br>INC<br>INC 20 | ABS<br>INC<br>INC 20 |
| 4kW        |                      | ABS<br>INC<br>INC 20 | ABS<br>INC<br>INC 20 |
| 4.5kW      | ABS<br>INC           |                      |                      |
| 5kW        |                      | ABS<br>INC<br>INC 20 | ABS<br>INC<br>INC 20 |
| 6kW        | ABS<br>INC           |                      |                      |
| 7.5kW      |                      | ABS<br>INC *         |                      |
| 11kW       |                      | ABS<br>INC *         |                      |
| 15kW       |                      | ABS<br>INC *         |                      |

| 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 |           |

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

## Functions



**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 17-bit resolution is provided on model with an absolute output and an incremental output.



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



**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.

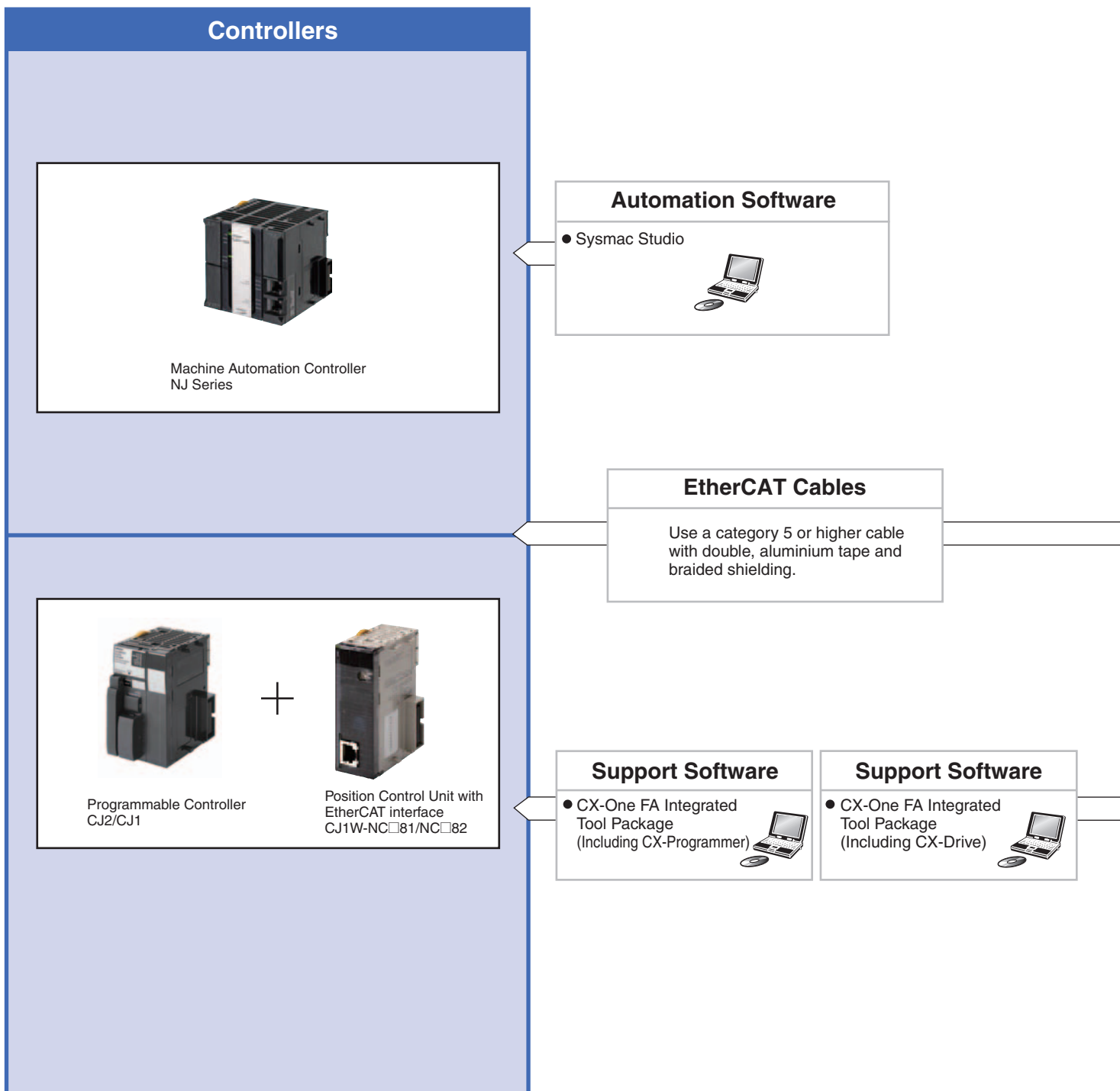


**Ironless:** Coil units do not include a core. Cogging-free type with excellent speed stability.

# G5 Series AC Servomotor/Servo Drives with built-in EtherCAT Communications

# R88M-K/R88D-KN□-ECT

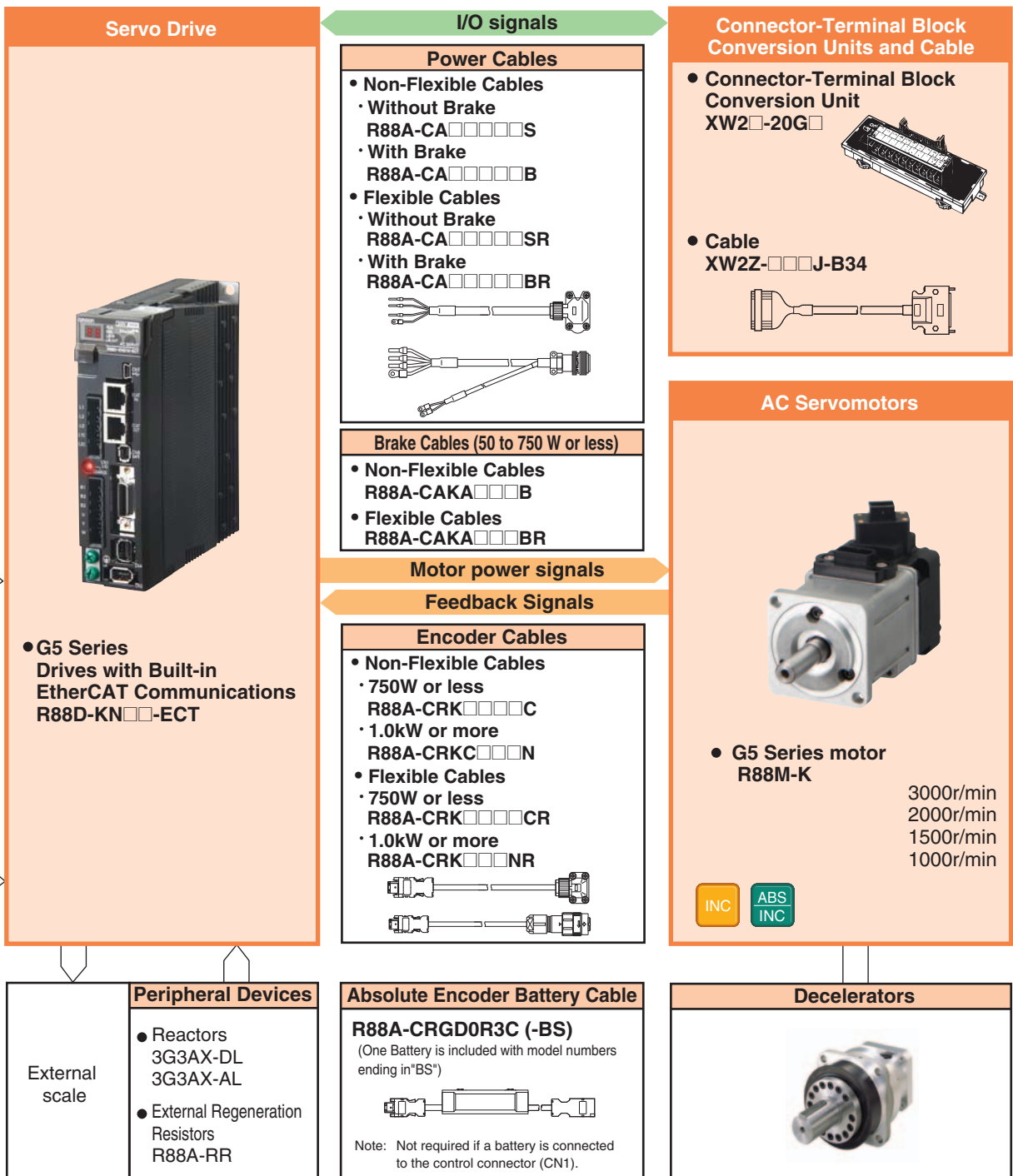
## System Configuration



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



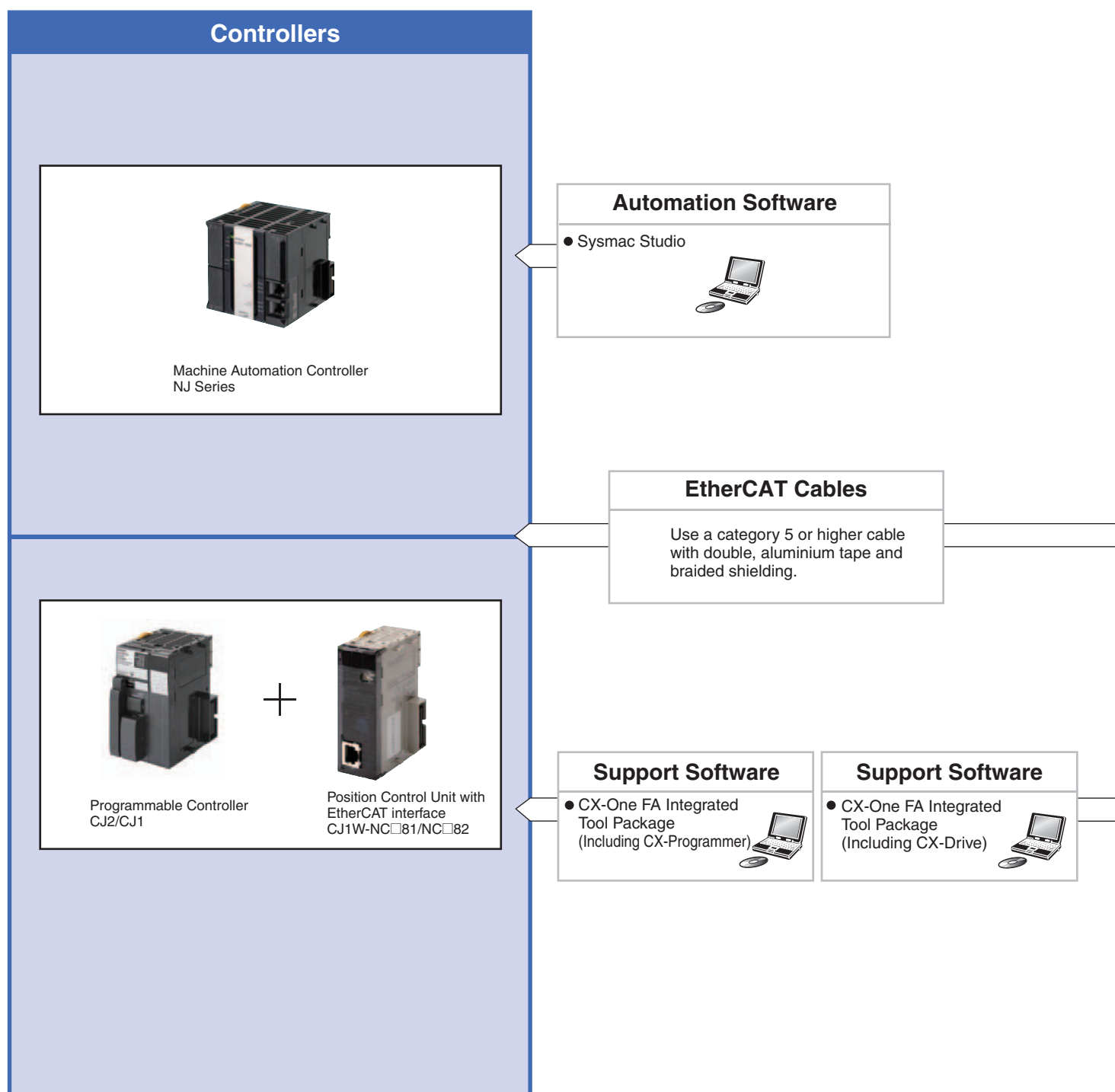
- High-accuracy positioning with fully-closed control.
- Servo Drives for 400VAC globally widens applicable systems and environment, including large-scale equipment.
- Safe design and Safe Torque Off (STO) function.
- Vibration can be suppressed in acceleration/deceleration even in low-rigidity mechanical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





# R88L-EC/R88D-KN□-ECT-L

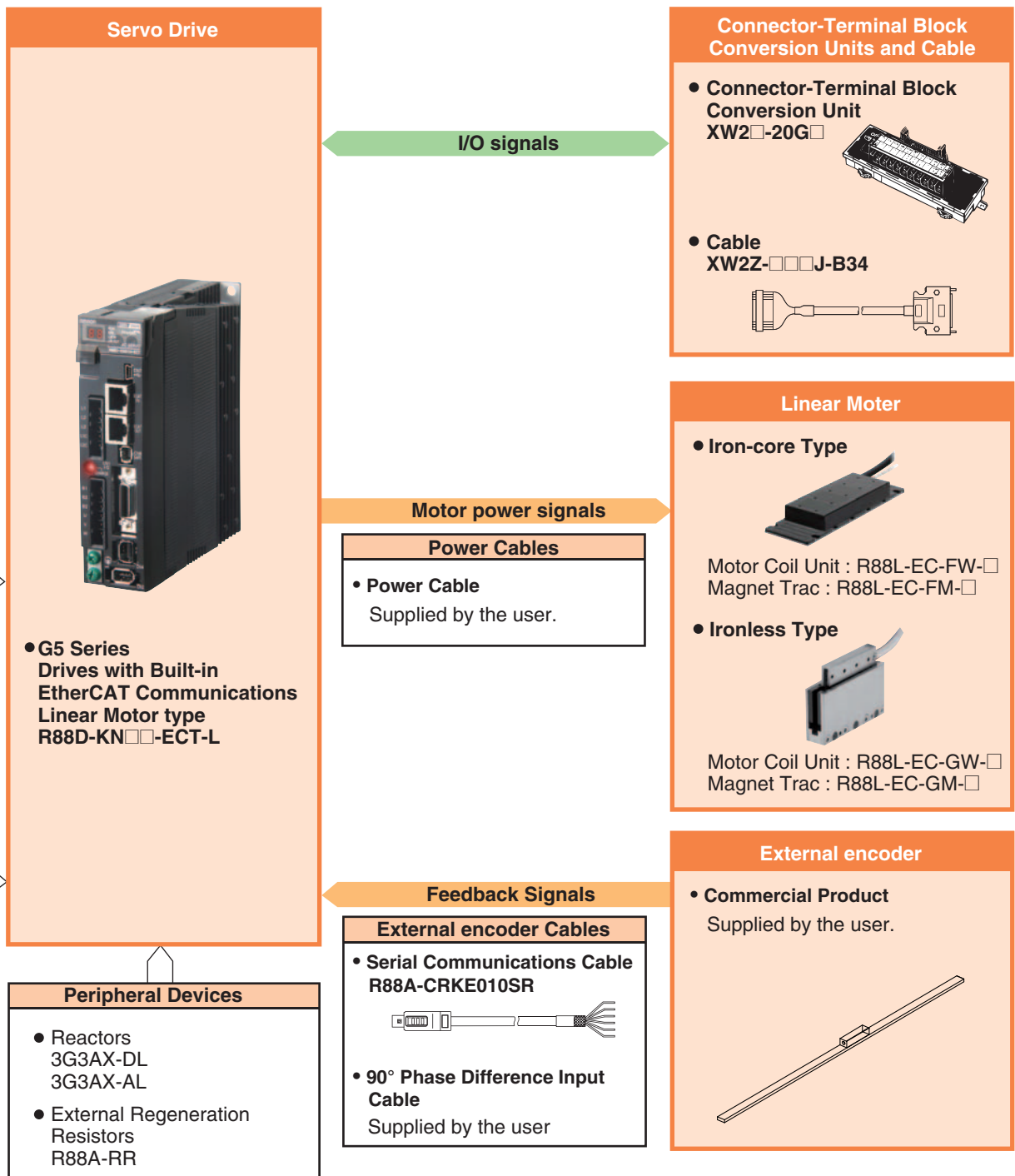
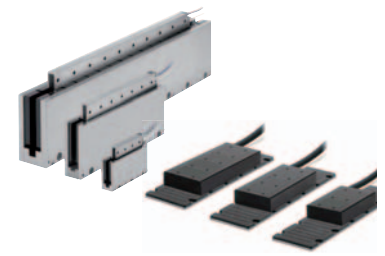
## System Configuration



## Linear Motor for Higher-speed and Higher-precision



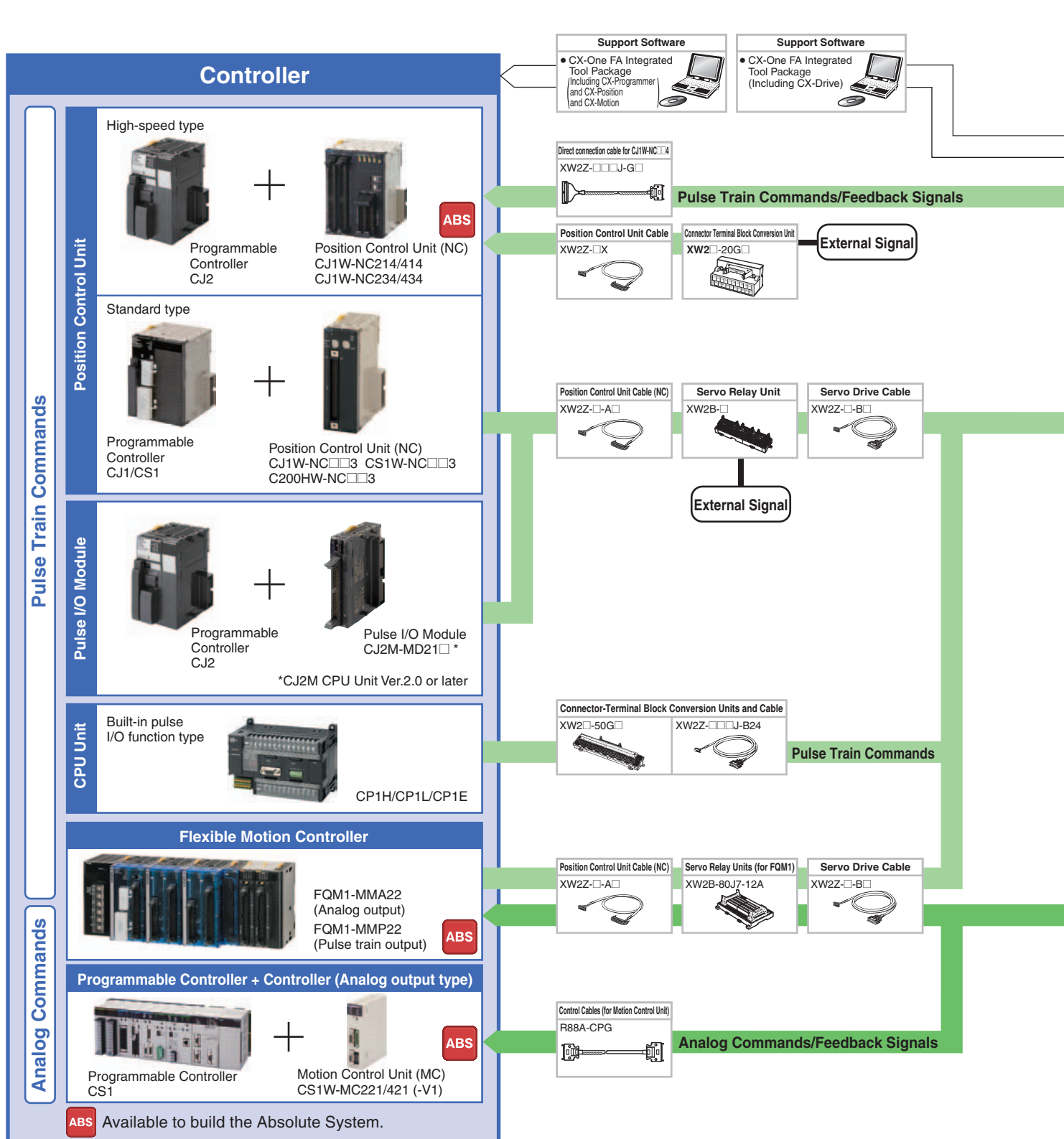
- Inherited functions and performance of G5 series and EtherCAT communications achieve high-speed and high-precision positioning.
- Lineup of compact and high-thrust iron-core motor type and cogging-free ironless motor type with excellent speed stability.
- Same Iron-core motor type for 200V AC and 400V AC.
- Quick setup by automatic setup function.



# G5-series AC Servomotors/Servo Drives with General-purpose Pulse Train or Analog Inputs

# R88M-K/R88D-KT

## System Configuration





## The Preeminent Servo That Revolutionizes Motion Control



(Ro)

- 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.

USB communications

### Servo Drive



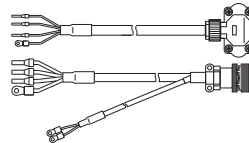
• G5 Series driver  
R88D-KT

100 VAC  
200 VAC  
400 VAC

### Motor power signals

#### Power Cables

- Non-flexible Cables
  - Without Brake  
R88A-CA□□□□□S
  - With Brake  
R88A-CA□□□□□B
- Flexible Cables
  - Without Brake  
R88A-CA□□□□□SR
  - With Brake  
R88A-CA□□□□□BR



#### Brake Cables (50 to 750 W or less)

- Non-flexible Cables  
R88A-CAKA□□□□B
- Flexible Cables  
R88A-CAKA□□□□BR

### Feedback Signals

#### Encoder Cables

- Non-Flexible Cables
  - 750W or less  
R88A-CRK□□□□□C
  - 1.0kW or more  
R88A-CRK□□□□□N
- Flexible Cables
  - 750W or less  
R88A-CRK□□□□□CR
  - 1.0kW or more  
R88A-CRK□□□□□NR



### AC Servomotors



• G5 Series motor  
R88M-K

3,000 r/min  
2,000 r/min  
1,500 r/min  
1,000 r/min

INC ABS  
INC

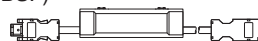
### Peripheral Devices

External scale

- Reactors  
3G3AX-DL  
3G3AX-AL
- External Regeneration Resistors  
R88A-RR

### Absolute Encoder Battery Cable

R88A-CRGD0R3C (-BS)  
(One Battery is included with Servo Drivers with model numbers ending in "BS.")



\* Not required if a battery is connected to the control connector (CN1).

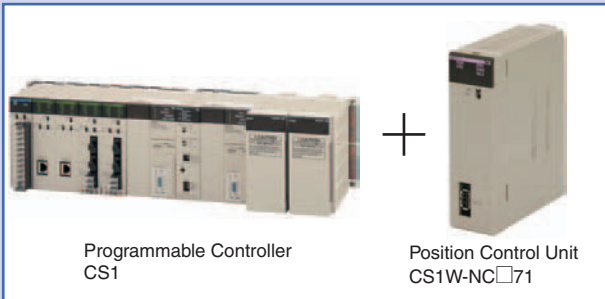
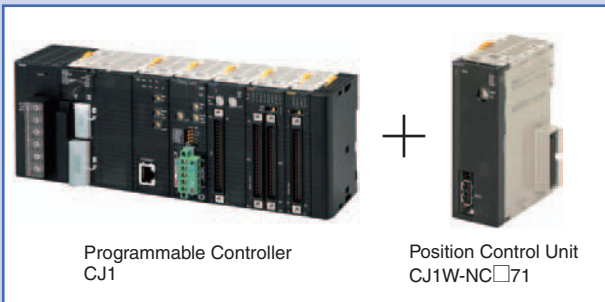
### Decelerators



# 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)**

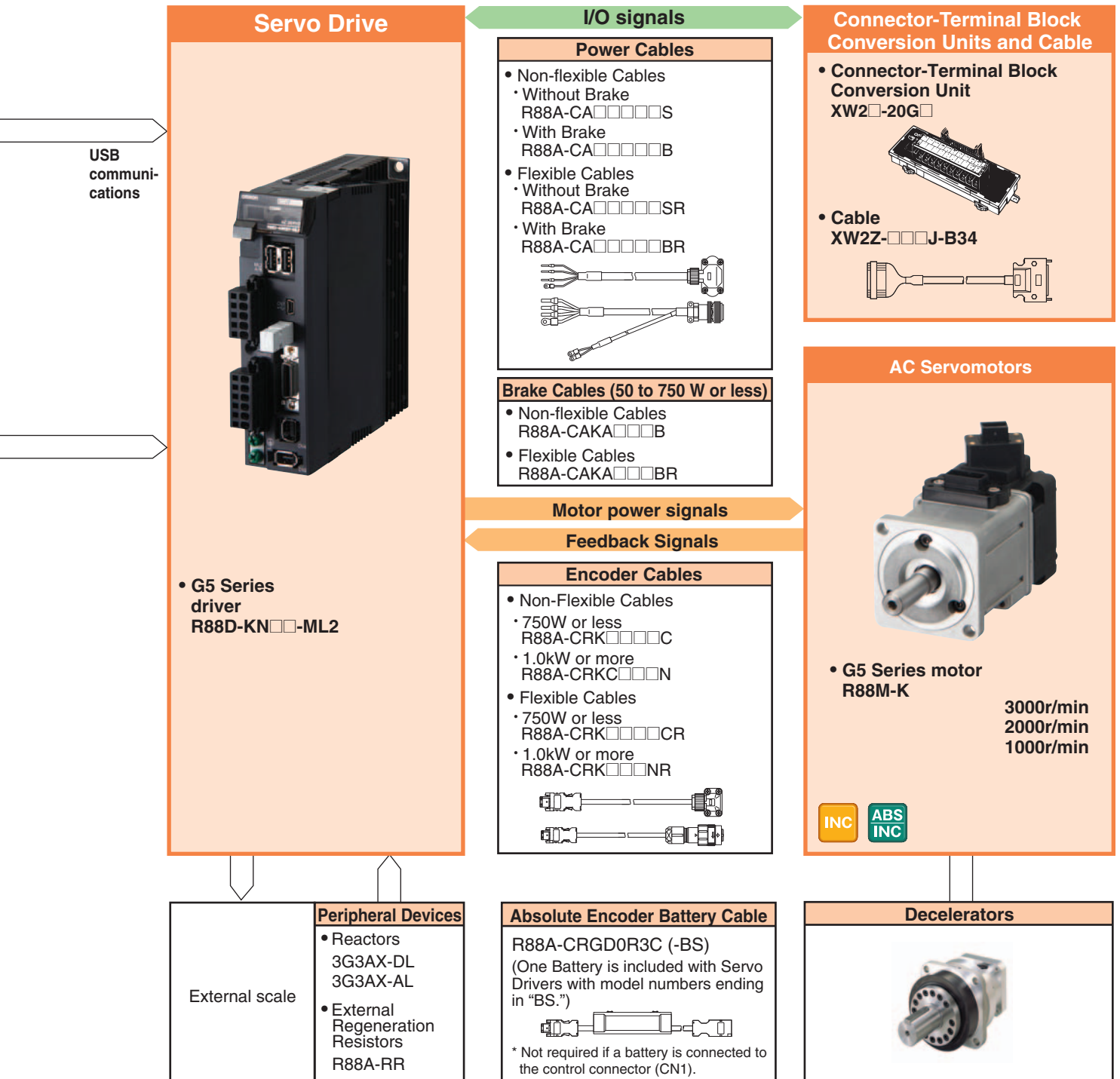
**MECHATROLINK-II Repeater**

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







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# Ordering Information

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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 Information..... B-6**

**AC Servo Drives ..... B-6**

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

**AC Servomotors ..... B-7**

**Linear Motors ..... B-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 table ..... B-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 Manuals ..... B-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) | G5-series Servo Drive                  |        |                                     |
| (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) | G5-series Servo Drive                    |        |                         |
| (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)  | G5-series Servomotor |        |   |
| (2)  | Motor Type           | Blank  | Cylinder type   |
|      |                      | -      | -   |
| (3)  | Servomotor Capacity  | 050    | 50 W  |
|      |                      | 100    | 100 W   |
|      |                      | 200    | 200 W   |
|      |                      | 400    | 400 W   |
|      |                      | 600    | 600 W   |
|      |                      | 750    | 750 W   |
|      |                      | 900    | 900 W   |
|      |                      | 1K0    | 1 kW  |
|      |                      | 1K5    | 1.5 kW  |
|      |                      | 2K0    | 2 kW  |
|      |                      | 3K0    | 3 kW  |
|      |                      | 4K0    | 4 kW  |
|      |                      | 4K5    | 4.5 kW  |
|      |                      | 5K0    | 5 kW  |
|      |                      | 6K0    | 6 kW  |
|      |                      | 7K5    | 7.5 kW  |
| 11K0 | 11 kW                |        |   |
| 15K0 | 15 kW                |        |   |
| (4)  | Rated Rotation Speed | 10     | 1,000 r/min   |
|      |                      | 15     | 1,500 r/min   |
|      |                      | 20     | 2,000 r/min   |
|      |                      | 30     | 3,000 r/min   |
| (5)  | Applied Voltage      | F      | 400 VAC (with incremental encoder specifications) <b>INC</b>  |
|      |                      | H      | 200 VAC (with incremental encoder specifications) <b>INC</b>  |
|      |                      | L      | 100 VAC (with incremental encoder specifications) <b>INC</b>  |
|      |                      | C      | 400 VAC (with absolute encoder specifications) <b>ABS/INC</b> |
|      |                      | T      | 200VAC (with absolute encoder specifications) <b>ABS/INC</b>  |
| (6)  | Option               | S      | 100 VAC (with absolute encoder specifications) <b>ABS/INC</b> |
|      |                      | Blank  | Straight shaft  |
|      |                      | B      | With brake  |
|      |                      | O      | With oil seal   |
|      |                      | S2     | With key and tap  |

**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                   |        |                           |
| (5) | Version                 | A      | Ver.A                     |

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

**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<br>G□-Series Servomotors Backlash = 3' Max. |        |                                     |
| (2) | Flange Size<br>Number                                       | 11B    | □40                                 |
|     |   | 14A    | □60                                 |
|     |   | 20A    | □90                                 |
|     |   | 32A    | □120                                |
|     |   | 50A    | □170                                |
|     |   | 65A    | □230                                |
| (3) | Gear Ratio  | 05     | 1/5                                 |
|     |   | 09     | 1/9 (only frame number 11B)         |
|     |   | 11     | 1/11 (except frame number 65A)      |
|     |   | 12     | 1/12 (only frame number 65A)        |
|     |   | 20     | 1/20 (only frame number 65A)        |
|     |   | 21     | 1/21 (except frame number 65A)      |
|     |   | 25     | 1/25 (only frame number 65A)        |
|     |   | 33     | 1/33                                |
| (4) | Applicable<br>Servomotor<br>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                                |
| (5) | Motor Type  | Blank  | 3,000-r/min cylindrical servomotors |
|     |   | -      | -                                   |
|     |   | S      | 2,000-r/min cylindrical servomotors |
|     |   | T      | 1,000-r/min cylindrical servomotors |
| (6) | Backlash  | B      | Backlash = 3' Max                   |
| (7) | Option  | Blank  | Straight shaft                      |
|     |   | J      | With key and 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<br>G□-Series Servomotors Backlash = 15' Max. |        |                                     |
| (2) | Gear Ratio   | 05     | 1/5                                 |
|     |  | 09     | 1/9                                 |
|     |  | 15     | 1/15                                |
|     |  | 25     | 1/25                                |
| (3) | Flange Size<br>Number  | B      | □52                                 |
|     |  | C      | □78                                 |
|     |  | D      | □98                                 |
| (4) | Applicable<br>Servomotor<br>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)<br>Type | (4)<br>Applicable Servomotor Capacity | (5)<br>Rotation speed                           | Model   | (6)<br>Applied Voltage |             |   |     |     |     | (7)<br>With brake / Without brake |            | (8)<br>Models with oil seals                          |   | (9)<br>Shaft type                                |    |   |   |
|-------------|---------------------------------------|---|---|------------------------|-------------|---|-----|-----|-----|-----------------------------------|------------|---|---|--|----|---|---|
|             |                                       |   |   | INC                    | INC         | INC   | ABS | ABS | ABS | –                                 | B          | Blank   | O | Blank  | S2 |   |   |
|             |                                       |   |   | 400                    | 200         | 100   | 400 | 200 | 100 |                                   |            |   |   |  |    |   |   |
|             |                                       |   |   | F                      | H           | L   | C   | T   | S   | Blank                             | With brake |   |   |  |    |   |   |
| Cylinder    | 50 W                                  | 3,000 r/min                                     | R88M-K05030 *1  |                        | √           |   |     | √   |     | √                                 | √          | √   | √ | √  | √  |   |   |
|             | 100 W                                 |   | R88M-K10030   |                        | √           | √   |     | √   | √   | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 200 W                                 |   | R88M-K20030   |                        | √           | √   |     | √   | √   | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 400 W                                 |   | R88M-K40030   |                        | √           | √   |     | √   | √   | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 750 W                                 |   | R88M-K75030   | √                      | √           |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 1 kW                                  |   | R88M-K1K030   | √                      | √           |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 1.5 kW                                |   | R88M-K1K530   | √                      | √           |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 2 kW                                  |   | R88M-K2K030   | √                      | √           |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 3 kW                                  |   | R88M-K3K030   | √                      | √           |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 4 kW                                  |   | R88M-K4K030   | √                      | √           |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 5 kW                                  |   | R88M-K5K030   | √                      | √           |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 400 W                                 |   | R88M-K40020   | 2,000 r/min            | R88M-K40020 | √   |     |     | √   |                                   |            | √   | √ | √  | √  | √   | √ |
|             | 600 W                                 |   | R88M-K60020   |                        | √           |   |     | √   |     |                                   | √          | √   | √ | √  | √  | √   | √ |
|             | 1 kW                                  | R88M-K1K020                                     | √   |                        | √           |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 1.5 kW                                | R88M-K1K520                                     | √   |                        | √           |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 2 kW                                  | R88M-K2K020                                     | √   |                        | √           |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 3 kW                                  | R88M-K3K020                                     | √   |                        | √           |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 4 kW                                  | R88M-K4K020                                     | √   |                        | √           |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 5 kW                                  | R88M-K5K020                                     | √   |                        | √           |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 7.5 kW                                | R88M-K7K515 *2                                  |   |                        |             |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 11 kW                                 | R88M-K11K015 *2                                 |   |                        |             |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 15 kW                                 | R88M-K15K015 *2                                 |   |                        |             |   | √   | √   |     | √                                 | √          | √   | √ | √  | √  | √   |   |
|             | 900 W                                 | R88M-K90010                                     | 1,000 r/min   |                        | R88M-K90010 | √   | √   |     | √   | √                                 |            | √   | √ | √  | √  | √   | √ |
|             | 2 kW                                  | R88M-K2K010                                     |   |                        | √           | √   |     | √   | √   |                                   | √          | √   | √ | √  | √  | √   | √ |
|             | 3 kW                                  | R88M-K3K010                                     |   |                        | √           | √   |     | √   | √   |                                   | √          | √   | √ | √  | √  | √   | √ |
|             | 4.5 kW                                | R88M-K4K510                                     |   |                        |             |   |     | √   | √   |                                   | √          | √   | √ | √  | √  | √   | √ |
|             | 6 kW                                  | R88M-K6K010                                     |   |                        |             |   |     | √   | √   |                                   | √          | √   | √ | √  | √  | √   | √ |
|             | Blank:<br>Cylinder type               | example<br>030: 30 W<br>100: 100 W<br>1K0: 1 kW | 10: 1,000 r/min<br>20: 2,000 r/min<br>30: 3,000 r/min |                        |             | F: 400 VAC (with incremental encoder) <b>INC</b><br>H: 200 VAC (with incremental encoder) <b>INC</b><br>L: 100 VAC (with incremental encoder) <b>INC</b><br>C: 400 VAC (with absolute encoder) <b>ABS/INC</b><br>T: 200 VAC (with absolute encoder) <b>ABS/INC</b><br>S: 100 VAC (with absolute encoder) <b>ABS/INC</b> |     |     |     |                                   |            | Blank:<br>Without brake<br>B:<br>24 VDC<br>With brake |   | Blank:<br>Without oil seals<br>O: With oil seals |    | Blank:<br>Straight shaft<br>S2:<br>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.

## Ordering Information

### AC Servo Drives

#### EtherCAT Communications

| Specifications                      |                                | Model           |
|-------------------------------------|--------------------------------|-----------------|
| Power Model Supply Voltage          | Applicable Servomotor Capacity |                 |
| Single-phase<br>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<br>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<br>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 |
| Three-phase<br>400 VAC              | 600 W                          | R88D-KN06F-ECT  |
|                                     | 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<br>100 VAC             | 50 W                           | R88D-KTA5L  |
|                                     | 100 W                          | R88D-KT01L  |
|                                     | 200 W                          | R88D-KT02L  |
|                                     | 400 W                          | R88D-KT04L  |
| Single-phase/three-phase<br>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<br>200 VAC              | 2 kW                           | R88D-KT20H  |
|                                     | 3 kW                           | R88D-KT30H  |
|                                     | 5 kW                           | R88D-KT50H  |
|                                     | 7.5 kW                         | R88D-KT75H  |
|                                     | 15 kW                          | R88D-KT150H |
| Three-phase<br>400 VAC              | 600 W                          | R88D-KT06F  |
|                                     | 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

**NEW**

| Specifications                      |                                | Model            |
|-------------------------------------|--------------------------------|------------------|
| Power Supply Voltage                | Applicable Servomotor Capacity |                  |
| Single-phase<br>100 VAC             | 100 W                          | R88D-KN01L-ECT-L |
|                                     | 200 W                          | R88D-KN02L-ECT-L |
|                                     | 400 W                          | R88D-KN04L-ECT-L |
| Single-phase/three-phase<br>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<br>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<br>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<br>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<br>200 VAC              | 2 kW                           | R88D-KN20H-ML2 |
|                                     | 3 kW                           | R88D-KN30H-ML2 |
|                                     | 5 kW                           | R88D-KN50H-ML2 |
| Three-phase<br>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        |  |
| Voltage        |        |                  | Straight shaft with key and tap |  |
|                |        |                  | 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                 |  |
| 400 V          | 3 kW   | R88M-K3K030H-S2  |                                 |  |
|                | 4 kW   | R88M-K4K030H-S2  |                                 |  |
|                | 5 kW   | R88M-K5K030H-S2  |                                 |  |
|                | 750 W  | R88M-K75030F-S2  |                                 |  |
|                | 1 kW   | R88M-K1K030F-S2  |                                 |  |
|                | 1.5 kW | R88M-K1K530F-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                |  |
| 400 V          | 3 kW   | R88M-K3K030H-BS2 |                                 |  |
|                | 4 kW   | R88M-K4K030H-BS2 |                                 |  |
|                | 5 kW   | R88M-K5K030H-BS2 |                                 |  |
|                | 750 W  | R88M-K75030F-BS2 |                                 |  |
|                | 1 kW   | R88M-K1K030F-BS2 |                                 |  |
|                | 1.5 kW | R88M-K1K530F-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   |  |
| Voltage        |        |                | Straight shaft without key |  |
|                |        |                | 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               |  |
| 400 V          | 3 kW   | R88M-K3K030H   |                            |  |
|                | 4 kW   | R88M-K4K030H   |                            |  |
|                | 5 kW   | R88M-K5K030H   |                            |  |
|                | 750 W  | R88M-K75030F   |                            |  |
|                | 1 kW   | R88M-K1K030F   |                            |  |
|                | 1.5 kW | R88M-K1K530F   |                            |  |
| 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             |  |
| 400 V          | 3 kW   | R88M-K3K030H-B |                            |  |
|                | 4 kW   | R88M-K4K030H-B |                            |  |
|                | 5 kW   | R88M-K5K030H-B |                            |  |
|                | 750 W  | R88M-K75030F-B |                            |  |
|                | 1 kW   | R88M-K1K030F-B |                            |  |
|                | 1.5 kW | R88M-K1K530F-B |                            |  |

Note: Models with oil seals are also available.

# AC Servomotor/Drive G5-series

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

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

| Specifications |                 |                   | Model                          |  |
|----------------|-----------------|-------------------|--------------------------------|--|
|                |                 |                   | With absolute encoder          |  |
|                |                 |                   | Straight shaft withkey and tap |  |
| Voltage        | Rated output    | Without oil seals |                                |  |
| 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   |                                |  |
|                | 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 |                   |                                |  |
| 400 V          | 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   |                                |  |
|                | 4 kW            | R88M-K4K030C-S2   |                                |  |
| Without brake  | 100 V           | 50 W              | R88M-K05030T-BS2               |  |
|                |                 | 100 W             | R88M-K10030S-BS2               |  |
|                |                 | 200 W             | R88M-K20030S-BS2               |  |
|                |                 | 400 W             | R88M-K40030S-BS2               |  |
|                | 200 V           | 50 W              | R88M-K05030T-BS2               |  |
|                |                 | 100 W             | R88M-K10030T-BS2               |  |
|                |                 | 200 W             | R88M-K20030T-BS2               |  |
|                |                 | 400 W             | R88M-K40030T-BS2               |  |
|                |                 | 750 W             | R88M-K75030T-BS2               |  |
|                |                 | 1 kW              | R88M-K1K030T-BS2               |  |
|                |                 | 1.5 kW            | R88M-K1K530T-BS2               |  |
|                |                 | 2 kW              | R88M-K2K030T-BS2               |  |
|                | 400 V           | 750 W             | R88M-K75030C-BS2               |  |
|                |                 | 1 kW              | R88M-K1K030C-BS2               |  |
|                |                 | 1.5 kW            | R88M-K1K530C-BS2               |  |
|                |                 | 2 kW              | R88M-K2K030C-BS2               |  |
| 3 kW           |                 | R88M-K3K030C-BS2  |                                |  |
| 4 kW           |                 | R88M-K4K030C-BS2  |                                |  |

Note: Models with oil seals are also available.

| Specifications |              |                   | Model                      |  |
|----------------|--------------|-------------------|----------------------------|--|
|                |              |                   | With absolute encoder      |  |
|                |              |                   | Straight shaft without key |  |
| Voltage        | Rated output | Without oil seals |                            |  |
| 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      |                            |  |
|                | 1.5 kW       | R88M-K1K530T      |                            |  |
|                | 2 kW         | R88M-K2K030T      |                            |  |
|                | 3 kW         | R88M-K3K030T      |                            |  |
|                | 4 kW         | R88M-K4K030T      |                            |  |
| 5 kW           | R88M-K5K030T |                   |                            |  |
| 400 V          | 750 W        | R88M-K75030C      |                            |  |
|                | 1 kW         | R88M-K1K030C      |                            |  |
|                | 1.5 kW       | R88M-K1K530C      |                            |  |
|                | 2 kW         | R88M-K2K030C      |                            |  |
|                | 3 kW         | R88M-K3K030C      |                            |  |
|                | 4 kW         | R88M-K4K030C      |                            |  |
| With brake     | 100 V        | 50 W              | R88M-K05030T-B             |  |
|                |              | 100 W             | R88M-K10030S-B             |  |
|                |              | 200 W             | R88M-K20030S-B             |  |
|                |              | 400 W             | R88M-K40030S-B             |  |
|                | 200 V        | 50 W              | R88M-K05030T-B             |  |
|                |              | 100 W             | R88M-K10030T-B             |  |
|                |              | 200 W             | R88M-K20030T-B             |  |
|                |              | 400 W             | R88M-K40030T-B             |  |
|                |              | 750 W             | R88M-K75030T-B             |  |
|                |              | 1 kW              | R88M-K1K030T-B             |  |
|                |              | 1.5 kW            | R88M-K1K530T-B             |  |
|                |              | 2 kW              | R88M-K2K030T-B             |  |
|                | 400 V        | 750 W             | R88M-K75030C-B             |  |
|                |              | 1 kW              | R88M-K1K030C-B             |  |
|                |              | 1.5 kW            | R88M-K1K530C-B             |  |
|                |              | 2 kW              | R88M-K2K030C-B             |  |
| 3 kW           |              | R88M-K3K030C-B    |                            |  |
| 4 kW           |              | R88M-K4K030C-B    |                            |  |

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                   |                  |
| 1.5 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 V          | 400 W            | R88M-K40020F-S2 |                                 |                  |
| 600 W          | R88M-K60020F-S2  |                 |                                 |                  |
| 1 kW           | R88M-K1K020F-S2  |                 |                                 |                  |
| 1.5 kW         | R88M-K1K520F-S2  |                 |                                 |                  |
| 2 kW           | R88M-K2K020F-S2  |                 |                                 |                  |
| 3 kW           | R88M-K3K020F-S2  |                 |                                 |                  |
| 4 kW           | R88M-K4K020F-S2  |                 |                                 |                  |
| 5 kW           | R88M-K5K020F-S2  |                 |                                 |                  |
| With brake     |                  | 200 V           | 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              |                |
| 1.5 kW         | R88M-K1K520H   |              |                            |                |
| 2 kW           | R88M-K2K020H   |              |                            |                |
| 3 kW           | R88M-K3K020H   |              |                            |                |
| 4 kW           | R88M-K4K020H   |              |                            |                |
| 5 kW           | R88M-K5K020H   |              |                            |                |
| 400 V          | 400 W          | R88M-K40020F |                            |                |
| 600 W          | R88M-K60020F   |              |                            |                |
| 1 kW           | R88M-K1K020F   |              |                            |                |
| 1.5 kW         | R88M-K1K520F   |              |                            |                |
| 2 kW           | R88M-K2K020F   |              |                            |                |
| 3 kW           | R88M-K3K020F   |              |                            |                |
| 4 kW           | R88M-K4K020F   |              |                            |                |
| 5 kW           | R88M-K5K020F   |              |                            |                |
| With brake     |                | 200 V        | 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    |

| Specifications |                     |                     | Model                           |  |
|----------------|---------------------|---------------------|---------------------------------|--|
|                |                     |                     | With absolute encoder           |  |
| Voltage        |                     |                     | Straight shaft with key and tap |  |
|                |                     |                     | 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 V               | 400 W               | R88M-K40020C-S2                 |  |
|                |                     | 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 *  |                     |                                 |  |
| With 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 V               | 400 W               | R88M-K40020C-BS2                |  |
|                |                     | 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.

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

| Specifications |                   |                   | Model                      |  |
|----------------|-------------------|-------------------|----------------------------|--|
|                |                   |                   | With absolute encoder      |  |
| Voltage        |                   |                   | Straight shaft without key |  |
|                |                   |                   | 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 V             | 400 W             | R88M-K40020C               |  |
|                |                   | 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 *   |                   |                            |  |
| With 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 V             | 400 W             | R88M-K40020C-B             |  |
|                |                   | 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 | Rated output | 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 | Rated output | 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.

## Linear Motors ***NEW***

<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<br>R88L-EC-FW-0306-ANPC                         | R88L-EC-FM-03096-A<br>R88L-EC-FM-03144-A<br>R88L-EC-FM-03384-A |
| R88L-EC-FW-0606-ANPC<br>R88L-EC-FW-0609-ANPC<br>R88L-EC-FW-0612-ANPC | R88L-EC-FM-06192-A<br>R88L-EC-FM-06288-A                       |
| R88L-EC-FW-1112-ANPC<br>R88L-EC-FW-1115-ANPC                         | R88L-EC-FM-11192-A<br>R88L-EC-FM-11288-A                       |

### Ironless motor type

| Motor Coil Unit model  | Magnet Trac model  |
|--|--|
| R88L-EC-GW-0303-ANPS<br>R88L-EC-GW-0306-ANPS<br>R88L-EC-GW-0309-ANPS | R88L-EC-GM-03090-A<br>R88L-EC-GM-03120-A<br>R88L-EC-GM-03390-A                       |
| R88L-EC-GW-0503-ANPS<br>R88L-EC-GW-0506-ANPS<br>R88L-EC-GW-0509-ANPS | R88L-EC-GM-05126-A<br>R88L-EC-GM-05168-A<br>R88L-EC-GM-05210-A<br>R88L-EC-GM-05546-A |
| R88L-EC-GW-0703-ANPS<br>R88L-EC-GW-0706-ANPS<br>R88L-EC-GW-0709-ANPS | R88L-EC-GM-07114-A<br>R88L-EC-GM-07171-A<br>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      |
| 3kW            | 1/5        | R88G-HPG32A053K0B      |
|                | 1/11       | R88G-HPG50A113K0B      |
|                | 1/21       | R88G-HPG50A213K0B      |
| 4kW            | 1/5        | R88G-HPG32A054K0B      |
|                | 1/11       | R88G-HPG50A115K0B      |
| 5kW            | 1/5        | R88G-HPG50A055K0B      |
|                | 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-HPG50A213K0SB     |
| 4 kW           | 1/5        | R88G-HPG50A055K0SB     |
|                | 1/11       | R88G-HPG50A115K0SB     |
|                | 1/20       | R88G-HPG65A205K0SB     |
| 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]<br>3,000-r/min Servomotors of 50 to 750 W   | 3 m  | R88A-CAKA003S |  |               |  |
|   | 5 m  | R88A-CAKA005S |  |               |  |
|   | 10 m | R88A-CAKA010S |  |               |  |
|   | 15 m | R88A-CAKA015S |  |               |  |
|   | 20 m | R88A-CAKA020S |  |               |  |
|   | 30 m | R88A-CAKA030S |  |               |  |
|   | 40 m | R88A-CAKA040S |  |               |  |
|   | 50 m | R88A-CAKA050S |  |               |  |
| [200 V]<br>3,000-r/min Servomotors of 1 to 2 kW<br>2,000-r/min Servomotors of 1 to 2 kW<br>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]<br>3,000-r/min Servomotors of 750 W to 2 kW<br>2,000-r/min Servomotors of 400 W to 2 kW<br>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]<br>3,000-r/min Servomotors of 3 to 5 kW<br>2,000-r/min Servomotors of 3 to 5 kW<br>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]<br>1,500-r/min Servomotors of 7.5 kW<br>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: 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.

**2.** 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]<br>3,000-r/min<br>Servomotors of<br>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]<br>1,500-r/min<br>Servomotors of<br>7.5 to 15 kW<br>1,000-r/min<br>Servomotors of<br>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]<br>3,000-r/min<br>Servomotors of<br>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]<br>3,000-r/min Servomotors<br>of 1.0 kW or more<br>2,000-r/min Servomotors<br>1,500-r/min Servomotors<br>1,000-r/min Servomotors<br>[400 V]<br>3,000-r/min Servomotors<br>2,000-r/min Servomotors<br>1,500-r/min Servomotors<br>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]<br>3,000-r/min Servomotors of 50 to 750 W  | 3 m            | R88A-CAKA003SR |                | <b>Note:</b> 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 |                |   |  |
| [200 V]<br>3,000-r/min Servomotors of 1 to 2 kW<br>2,000-r/min Servomotors of 1 to 2 kW<br>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  |  |
| [400 V]<br>3,000-r/min Servomotors of 750 W to 2 kW<br>2,000-r/min Servomotors of 400 W to 2 kW<br>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  |  |
| [200 V] [400 V]<br>3,000-r/min Servomotors of 3 to 5 kW<br>2,000-r/min Servomotors of 3 to 5 kW<br>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]<br>3,000-r/min<br>Servomotors of<br>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]<br>3,000-r/min<br>Servomotors of<br>50 to 750 W<br>(for both absolute<br>encoders and<br>incremental<br>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  |  |
| [100 V and 200 V]<br>3,000-r/min Servomotors<br>of 1.0 kW or more<br>2,000-r/min Servomotors<br>1,500-r/min Servomotors<br>1,000-r/min Servomotors<br>[400 V]<br>3,000-r/min Servomotors<br>2,000-r/min Servomotors<br>1,500-r/min Servomotors<br>1,000-r/min Servomotors | 50 m           | R88A-CRKA050CR  |  |
|   | 3 m            | R88A-CRKC003NR  |  |
|   | 5 m            | R88A-CRKC005NR  |  |
|   | 10 m           | R88A-CRKC010NR  |  |
|   | 15 m           | R88A-CRKC015NR  |  |
|   | 20 m           | R88A-CRKC020NR  |  |
|   | 30 m           | R88A-CRKC030NR  |  |
| 40 m  | R88A-CRKC040NR |                 |  |
| 50 m  | R88A-CRKC050NR |                 |  |

■ 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<br>EtherCAT Communications<br>EtherCAT Communications Linear motor | R88A-CNW01C |

**Servomotor Connector**

| Name                                   | Applicable Servomotor Capacity   |  | Model       |
|--|--|--|-------------|
|  |  |  |             |
| Servomotor Connector for Encoder Cable | [100 V/200 V]<br>3,000 r/min (50 to 750 W)   |  | R88A-CNK02R |
|  | [100 V/200 V]<br>3,000 r/min (1 to 5 kW)<br>2,000r/min, 1,000r/min<br>[400 V]<br>3,000 r/min, 2,000 r/min, 1,000 r/min |  | R88A-CNK04R |
| Power Cable Connector                  | (750 W max.)   |  | R88A-CNK11A |
| Brake Cable Connector                  | (750 W max.)   |  | R88A-CNK11B |

**External Encoder Cable**

| Name                        | Lengths | Model          |
|-----------------------------|---------|----------------|
| Serial Communications Cable | 10 m    | R88A-CRKE010SR |

## ■ 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<br>EtherCAT Communications | Length 1.0 m  | XW2Z-100J-B34 |           |
|  |   | Length 2.0 m  | XW2Z-200J-B34 |           |
| Connector Terminal Block Conversion Unit | General-purpose Input                                     | Conversion Unit for General-purpose Controllers (M3 screws)   | Through type  | XW2B-50G4 |
|  |   | Conversion Unit for General-purpose Controllers (M3.5 screws) | Through type  | XW2B-50G5 |
|  |   | Conversion Unit for General-purpose Controllers (M3 screws)   | Slim type     | XW2D-50G6 |
|  | MECHATROLINK-II Communications<br>EtherCAT Communications | Conversion Unit for General-purpose Controllers (M3 screws)   | Through type  | XW2B-20G4 |
|  |   | Conversion Unit for General-purpose Controllers (M3.5 screws) | Through type  | XW2B-20G5 |
|  |   | Conversion Unit for General-purpose Controllers (M3 screws)   | Slim type     | XW2D-20G6 |

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

### Connection Cables (for CN1)

| Name  | Specifications                         |               | The number of axes                     | Length                               | Model         |            |     |               |
|---|--|---------------|--|--------------------------------------|---------------|------------|-----|---------------|
|   | 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)<br>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 |  |                                      |               |            |     |               |
| General-purpose Control Cables with Connector on One End          | Cables for General-purpose Controllers |               | -                                      | 1 m                                  | R88A-CPG001S  |            |     |               |
|   |  |               |  | 2 m                                  | R88A-CPG002S  |            |     |               |

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

| Name                            | Specifications                           | Model                                 |              |           |
|---------------------------------|--|---------------------------------------|--------------|-----------|
| Connector Terminal Block 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 M2.4 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:<br>For CJ1W-NC113/NC133<br>For CS1W-NC113/NC133<br>For C200HW-NC113                               | for 1 axis         | <b>XW2B-20J6-1B</b>  |
| Position Control Unit:<br>For CJ1W-NC213/NC233/NC413/NC433<br>For CS1W-NC213/NC233/NC413/NC433<br>For C200HW-NC213/NC413 | for 2 axis         | <b>XW2B-40J6-2B</b>  |
| For CJ2M-CPU31/CPU32/CPU33/CPU34/CPU35<br>For CJ2M-CPU11/CPU12/CPU13/CPU14/CPU15   | for 1 axis         | <b>XW2B-20J6-8A</b>  |
|  | for 2 axis         | <b>XW2B-40J6-9A</b>  |
| For FQM1-MMA22 (Analog output)<br>For FQM1-MMP22 (Pulse train output)  | for 2 axis         | <b>XW2B-80J7-12A</b> |

### Servo Relay Unit cable (for Servo Drive/CN1)

| Specifications   | Length | Model                |
|--|--------|----------------------|
| Position Control Unit:<br>For CJ1W-NC□□3□<br>For CS1W/C200HW-NC□□□□<br>(XW2B-20J6-1B, XW2B-40J6-2B)              | 1 m    | <b>XW2Z-100J-B25</b> |
|  | 2 m    | <b>XW2Z-200J-B25</b> |
| For CJ2M-CPU31/CPU32/CPU33/CPU34/CPU35<br>For CJ2M-CPU11/CPU12/CPU13/CPU14/CPU15<br>(XW2B-20J6-8A, XW2B-40J6-9A) | 1 m    | <b>XW2Z-100J-B31</b> |
|  | 2 m    | <b>XW2Z-200J-B31</b> |
| For FQM1-MMA22 (Analog output)<br>(XW2B-80J7-12A)  | 1 m    | <b>XW2Z-100J-B27</b> |
|  | 2 m    | <b>XW2Z-200J-B27</b> |
| For FQM1-MMP22 (Pulse train output)<br>(XW2B-80J7-12A)   | 1 m    | <b>XW2Z-100J-B26</b> |
|  | 2 m    | <b>XW2Z-200J-B26</b> |

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

## ■ Communication Cables

### ● MECHATROLINK-II Communications

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

| Name  | Length                  | Model                | Yaskawa model number |
|---|-------------------------|----------------------|----------------------|
|   |                         | (OMRON model number) |                      |
| MECHATROLINK-II Cables<br>(without ring core and USB connector on both ends)<br>* 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     |
|   | 0.5 m                   | FNY-W6003-A5         | JEPMC-W6003-A5       |
| MECHATROLINK-II Cables<br>(with ring core and USB connector on both ends)   | 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 | FNY-REP2000          | JEPMC-REP2000        |



- 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.

#### Cabel with Connectors

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

| Item  | Appearance  | Recommended manufacturer | Cable length(m) | Model           |
|---|---|--------------------------|-----------------|-----------------|
| Cable with Connectors on Both Ends<br>(RJ45/RJ45) |  | 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<br>(M12/RJ45)  |  | OMRON                    | 0.3             | XS5W-T421-AMC-K |
|   |   |                          | 0.5             | XS5W-T421-BMC-K |
|   |   |                          | 1               | XS5W-T421-CMC-K |
|   |   |                          | 2               | XS5W-T421-DMC-K |
|   |   |                          | 5               | XS5W-T421-GMC-K |
|   |   |                          | 10              | XS5W-T421-JMC-K |

**Note:** The cable length 0.3, 0.5, 1, 2, 3, 5, 10 and 15m are available. For details, refer to Cat.No.G019.


#### Cables / Connectors

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

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

\* 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 * |
| 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<br>(For single-phase input)                                    | R88D-KNA5L-ML2/-KN01H-ML2<br>(For single-phase input)  | R88D-KNA5L-ECT/-KN01H-ECT<br>(For single-phase input)  | R88D-KN01H-ECT-L<br>(For single-phase input)   | 3G3AX-DL2002 |
| R88D-KT01L/-KT02H<br>(For single-phase input)                                    | R88D-KN01L-ML2/-KN02H-ML2<br>(For single-phase input)  | R88D-KN01L-ECT/-KN02H-ECT<br>(For single-phase input)  | R88D-KN01L-ECT-L/-KN02H-ECT-L<br>(For single-phase input)  | 3G3AX-DL2004 |
| R88D-KT02L/-KT04H<br>(For single-phase input)                                    | R88D-KN02L-ML2/-KN04H-ML2<br>(For single-phase input)  | R88D-KN02L-ECT/-KN04H-ECT<br>(For single-phase input)  | R88D-KN02L-ECT-L/-KN04H-ECT-L<br>(For single-phase input)  | 3G3AX-DL2007 |
| R88D-KT04L/-KT08H/<br>-KT10H<br>(For single-phase input)                         | R88D-KN04L-ML2/-KN08H-ML2/<br>-KN10H-ML2<br>(For single-phase input)                                     | R88D-KN04L-ECT/-KN08H-ECT/<br>-KN10H-ECT<br>(For single-phase input)                                     | R88D-KN04L-ECT-L/-KN08H-ECT-L/<br>-KN10H-ECT-L<br>(For single-phase input)   | 3G3AX-DL2015 |
| R88D-KT15H<br>(For single-phase input)   | R88D-KN15H-ML2<br>(For single-phase input)   | R88D-KN15H-ECT<br>(For single-phase input)   | R88D-KN15H-ECT-L<br>(For single-phase input)   | 3G3AX-DL2022 |
| R88D-KT01H/-KT02H/<br>-KT04H/-KT08H/<br>-KT10H/-KT15H<br>(For three-phase input) | R88D-KN01H-ML2/-KN02H-ML2/<br>-KN04H-ML2/-KN08H-ML2/<br>-KN10H-ML2/-KN15H-ML2<br>(For three-phase input) | R88D-KN01H-ECT/-KN02H-ECT/<br>-KN04H-ECT/-KN08H-ECT/<br>-KN10H-ECT/-KN15H-ECT<br>(For three-phase input) | R88D-KN01H-ECT-L/-KN02H-ECT-L/<br>-KN04H-ECT-L/-KN08H-ECT-L/<br>-KN10H-ECT-L/-KN15H-ECT-L<br>(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/<br>-KN15F-ML2   | R88D-KN06F-ECT/-KN10F-ECT/<br>-KN15F-ECT   | R88D-KN06F-ECT-L/-KN10F-ECT-L/<br>-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/<br>-KT01H/-KT02H       | R88D-KNA5L-ML2/-KN01L-ML2/<br>-KN01H-ML2/-KN02H-ML2                | R88D-KNA5L-ECT/-KN01L-ECT/<br>-KN01H-ECT/-KN02H-ECT                | R88D-KN01L-ECT-L/-KN01H-ECT-L/<br>-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/<br>-KT06F/-KT10F/-KT15F | R88D-KN10H-ML2/-KN15H-ML2/<br>-KN06F-ML2/-KN10F-ML2/<br>-KN15F-ML2 | R88D-KN10H-ECT/-KN15H-ECT/<br>-KN06F-ECT/-KN10F-ECT/<br>-KN15F-ECT | R88D-KN10H-ECT-L/-KN15H-ECT-L/<br>-KN06F-ECT-L/-KN10F-ECT-L/<br>-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"> <li>• EtherCAT Communications</li> <li>• EtherCAT Communications Linear Motor</li> <li>• General-purpose input type(PulseTrain or Analog inputs)</li> <li>• MECHATROLINK-II Communications</li> </ul> | G5-series <ul style="list-style-type: none"> <li>• EtherCAT Communications (Unit version 2.1 or later recommended)</li> <li>• EtherCAT Communications Linear Motor</li> </ul> |
| Software              | FA Intergrated Tool Package CX-One   | Automation Software Sysmac Studio   |

## ■ FA Integrated Tool Package CX-One

| Product name                               | Specifications   |                    |           | Model          | Standards |
|--|--|--------------------|-----------|----------------|-----------|
|  |  | Number of licenses | Media     |                |           |
| 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.<br/>OS: Windows XP (Service Pack 3 or higher), Vista, 7 or 8<br/><b>Note:</b> Except for Windows XP 64-bit version.</p> <p>CX-One Version.4.□ includes CX-Drive Ver.2.□.</p> | 1 license<br>*1    | DVD<br>*2 | CXONE-AL01D-V4 | -         |

\*1. Multi licenses are available for the CX-One (3, 10, 30, or 50 licenses).

\*2. The CX-One is also available on CD (CXONE-AL□□C-V4).

## ■ 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   |                    |       | Model         | Standards |
|---|--|--------------------|-------|---------------|-----------|
|   |  | Number of licenses | Media |               |           |
| Sysmac Studio Standard Edition Ver.1.□□ | <p>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.</p> <p>Sysmac Studio runs on the following OS.<br/>Windows XP (Service Pack 3 or higher, 32-bit version)/ Vista (32-bit version) / 7 (32-bit/64-bit version)</p> | -<br>(Media only)  | DVD   | SYSMAC-SE200D | -         |
|   | <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).<br/>For details, refer to the Sysmac Integrated Catalogue (P072).</p>   | 1 license<br>*     | -     | 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 | With absolute encoder |
| Single-phase<br>100 to 120 VAC                 | R88D-KTA5L                | R88D-KNA5L-ML2   | R88D-KNA5L-ECT   | 50 W                     | R88M-K05030H-□           | R88M-K05030T-□        |
|  | R88D-KT01L                | R88D-KN01L-ML2   | R88D-KN01L-ECT   | 100 W                    | R88M-K10030L-□           | R88M-K10030S-□        |
|  | R88D-KT02L                | R88D-KN02L-ML2   | R88D-KN02L-ECT   | 200 W                    | R88M-K20030L-□           | R88M-K20030S-□        |
|  | R88D-KT04L                | R88D-KN04L-ML2   | R88D-KN04L-ECT   | 400 W                    | R88M-K40030L-□           | R88M-K40030S-□        |
| Single-phase/<br>three-phase<br>200 to 240 VAC | R88D-KT01H *              | R88D-KN01H-ML2 * | R88D-KN01H-ECT * | 50 W                     | R88M-K05030H-□ *         | R88M-K05030T-□ *      |
|  | R88D-KT01H                | R88D-KN01H-ML2   | R88D-KN01H-ECT   | 100 W                    | R88M-K10030H-□           | R88M-K10030T-□        |
|  | R88D-KT02H                | R88D-KN02H-ML2   | R88D-KN02H-ECT   | 200 W                    | R88M-K20030H-□           | R88M-K20030T-□        |
|  | R88D-KT04H                | R88D-KN04H-ML2   | R88D-KN04H-ECT   | 400 W                    | R88M-K40030H-□           | R88M-K40030T-□        |
|  | R88D-KT08H                | R88D-KN08H-ML2   | R88D-KN08H-ECT   | 750 W                    | R88M-K75030H-□           | R88M-K75030T-□        |
|  | R88D-KT15H *              | R88D-KN15H-ML2 * | R88D-KN15H-ECT * | 1 kW                     | R88M-K1K030H-□ *         | R88M-K1K030T-□ *      |
|  | R88D-KT15H                | R88D-KN15H-ML2   | R88D-KN15H-ECT   | 1.5 kW                   | R88M-K1K530H-□           | R88M-K1K530T-□        |
| Three-phase<br>200 to 240 VAC                  | R88D-KT20H                | R88D-KN20H-ML2   | R88D-KN20H-ECT   | 2 kW                     | R88M-K2K030H-□           | R88M-K2K030T-□        |
|  | R88D-KT30H                | R88D-KN30H-ML2   | R88D-KN30H-ECT   | 3 kW                     | R88M-K3K030H-□           | R88M-K3K030T-□        |
|  | R88D-KT50H                | R88D-KN50H-ML2   | R88D-KN50H-ECT * | 4 kW                     | R88M-K4K030H-□           | R88M-K4K030T-□        |
|  | R88D-KT50H                | R88D-KN50H-ML2   | R88D-KN50H-ECT   | 5 kW                     | R88M-K5K030H-□           | R88M-K5K030T-□        |
| Three-phase<br>400 to 480 VAC                  | R88D-KT10F                | R88D-KN10F-ML2   | R88D-KN10F-ECT * | 750 W                    | R88M-K75030F-□           | R88M-K75030C-□        |
|  | R88D-KT15F *              | R88D-KN15F-ML2 * | R88D-KN15F-ECT * | 1 kW                     | R88M-K1K030F-□ *         | R88M-K1K030C-□ *      |
|  | R88D-KT15F                | R88D-KN15F-ML2   | R88D-KN15F-ECT   | 1.5 kW                   | R88M-K1K530F-□           | R88M-K1K530C-□        |
|  | R88D-KT20F                | R88D-KN20F-ML2   | R88D-KN20F-ECT   | 2 kW                     | R88M-K2K030F-□           | R88M-K2K030C-□        |
|  | R88D-KT30F                | R88D-KN30F-ML2   | R88D-KN30F-ECT   | 3 kW                     | R88M-K3K030F-□           | R88M-K3K030C-□        |
|  | R88D-KT50F                | R88D-KN50F-ML2   | R88D-KN50F-ECT * | 4 kW                     | R88M-K4K030F-□           | R88M-K4K030C-□        |
|  | R88D-KT50F                | R88D-KN50F-ML2   | R88D-KN50F-ECT   | 5 kW                     | R88M-K5K030F-□           | R88M-K5K030C-□        |

● 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 | With absolute encoder |
| Single-phase/<br>three-phase<br>200 to 240 VAC | R88D-KT10H                | R88D-KN10H-ML2   | R88D-KN10H-ECT    | 1 kW                     | R88M-K1K020H-□           | R88M-K1K020T-□        |
|  | R88D-KT15H                | R88D-KN15H-ML2   | R88D-KN15H-ECT    | 1.5 kW                   | R88M-K1K520H-□           | R88M-K1K520T-□        |
| Three-phase<br>200 to 240 VAC                  | R88D-KT20H                | R88D-KN20H-ML2   | R88D-KN20H-ECT    | 2 kW                     | R88M-K2K020H-□           | R88M-K2K020T-□        |
|  | R88D-KT30H                | R88D-KN30H-ML2   | R88D-KN30H-ECT    | 3 kW                     | R88M-K3K020H-□           | R88M-K3K020T-□        |
|  | R88D-KT50H *              | R88D-KN50H-ML2 * | R88D-KN50H-ECT *  | 4 kW                     | R88M-K4K020H-□ *         | R88M-K4K020T-□ *      |
|  | R88D-KT50H                | R88D-KN50H-ML2   | R88D-KN50H-ECT    | 5 kW                     | R88M-K5K020H-□           | R88M-K5K020T-□        |
|  | R88D-KT75H                | –                | R88D-KN75H-ECT    | 7.5 kW                   | –                        | R88M-K7K515T-□        |
|  | R88D-KT150H *             | –                | R88D-KN150H-ECT * | 11 kW                    | –                        | R88M-K11K015T-□ *     |
|  | R88D-KT150H               | –                | R88D-KN150H-ECT   | 15 kW                    | –                        | R88M-K15K015T-□       |
| Three-phase<br>400 to 480 VAC                  | R88D-KT06F                | R88D-KN06F-ML2   | R88D-KN06F-ECT*   | 400 W                    | R88M-K40020F-□           | R88M-K40020C-□        |
|  | R88D-KT06F                | R88D-KN06F-ML2   | R88D-KN06F-ECT    | 600 W                    | R88M-K60020F-□           | R88M-K60020C-□        |
|  | R88D-KT10F                | R88D-KN10F-ML2   | R88D-KN10F-ECT    | 1 kW                     | R88M-K1K020F-□           | R88M-K1K020C-□        |
|  | R88D-KT15F                | R88D-KN15F-ML2   | R88D-KN15F-ECT    | 1.5 kW                   | R88M-K1K520F-□           | R88M-K1K520C-□        |
|  | R88D-KT20F                | R88D-KN20F-ML2   | R88D-KN20F-ECT    | 2 kW                     | R88M-K2K020F-□           | R88M-K2K020C-□        |
|  | R88D-KT30F                | R88D-KN30F-ML2   | R88D-KN30F-ECT    | 3 kW                     | R88M-K3K020F-□           | R88M-K3K020C-□        |
|  | R88D-KT50F *              | R88D-KN50F-ML2 * | R88D-KN50F-ECT *  | 4 kW                     | R88M-K4K020F-□ *         | R88M-K4K020C-□ *      |
|  | R88D-KT50F                | R88D-KN50F-ML2   | R88D-KN50F-ECT    | 5 kW                     | R88M-K5K020F-□           | R88M-K5K020C-□        |
|  | R88D-KT75F                | –                | R88D-KN75F-ECT    | 7.5 kW                   | –                        | R88M-K7K515C-□        |
|  | R88D-KT150F *             | –                | R88D-KN150F-ECT * | 11 kW                    | –                        | R88M-K11K015C-□ *     |
|  | R88D-KT150F               | –                | R88D-KN150F-ECT   | 15 kW                    | –                        | R88M-K15K015C-□       |

\* 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/<br>three-phase<br>200 to 240 VAC | R88D-KT15H *              | R88D-KN15H-ML2 * | R88D-KN15H-ECT * | 900 W                    | R88M-K90010H-□ *         | R88M-K90010T-□ *      |
| Three-phase<br>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<br>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<br>(1/9 for flange size No.11)                 | 1/21   | 1/33   | 1/45  |
|---------------------------|---|---|--|--|---|
| R88M-K05030□              | R88G-HPG11B05100B□<br>(Also used with R88M-K10030□) | R88G-HPG11B09050B□<br>(Gear ratio 1/9)              | R88G-HPG14A21100B□<br>(Also used with R88M-K10030□)  | R88G-HPG14A33050B□                                   | R88G-HPG14A45050B□                                  |
| R88M-K10030□              | R88G-HPG11B05100B□                                  | R88G-HPG14A11100B□                                  | R88G-HPG14A21100B□                                   | 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<br>(200 V) | R88G-HPG20A05750B□                                  | R88G-HPG20A11750B□                                  | R88G-HPG32A21750B□                                   | R88G-HPG32A33750B□                                   | R88G-HPG32A45750B□                                  |
| R88M-K75030F/C<br>(400 V) | R88G-HPG32A052K0B□<br>(Also used with R88M-K2K030□) | R88G-HPG32A112K0B□<br>(Also used with R88M-K2K030□) | R88G-HPG32A211K5B□<br>(Also used with R88M-K1K5030□) | R88G-HPG32A33600SB□<br>(Also used with R88M-K60020□) | R88G-HPG50A451K5B□<br>(Also used with R88M-K1K530□) |
| R88M-K1K030□              | R88G-HPG32A052K0B□<br>(Also used with R88M-K2K030□) | R88G-HPG32A112K0B□<br>(Also used with R88M-K2K030□) | R88G-HPG32A211K5B□<br>(Also used with R88M-K1K5030□) | R88G-HPG50A332K0B□<br>(Also used with R88M-K2K030□)  | R88G-HPG50A451K5B□<br>(Also used with R88M-K1K530□) |
| R88M-K1K530□              | R88G-HPG32A052K0B□<br>(Also used with R88M-K2K030□) | R88G-HPG32A112K0B□<br>(Also used with R88M-K2K030□) | R88G-HPG32A211K5B□                                   | R88G-HPG50A332K0B□<br>(Also used with R88M-K2K030□)  | R88G-HPG50A451K5B□                                  |
| R88M-K2K030□              | R88G-HPG32A052K0B□                                  | R88G-HPG32A112K0B□                                  | R88G-HPG50A212K0B□                                   | R88G-HPG50A332K0B□                                   | -   |
| R88M-K3K030□              | R88G-HPG32A053K0B□                                  | R88G-HPG50A113K0B□                                  | R88G-HPG50A213K0B□                                   | -  | -   |
| R88M-K4K030□              | R88G-HPG32A054K0B□                                  | R88G-HPG50A115K0B□<br>(Also used with R88M-K5K030□) | -  | -  | -   |
| R88M-K5K030□              | R88G-HPG50A055K0B□                                  | R88G-HPG50A115K0B□                                  | -  | -  | -   |

#### ● 2,000-r/min servomotors

| Motor model                  | 1/5  | 1/11   | 1/21<br>(1/20 for flange size No.65)                 | 1/33<br>(1/25 for flange size No.65)                 | 1/45                                 |
|------------------------------|--|--|--|--|--------------------------------------|
| R88M-K40020□<br>(Only 400 V) | R88G-HPG32A052K0B□<br>(Also used with R88M-K2K030□)  | R88G-HPG32A112K0B□<br>(Also used with R88M-K2K030□)  | R88G-HPG32A211K5B□<br>(Also used with R88M-K1K5030□) | R88G-HPG32A33600SB□<br>(Also used with R88M-K60020□) | R88G-HPG32A45400SB□                  |
| R88M-K60020□<br>(Only 400 V) | R88G-HPG32A052K0B□<br>(Also used with R88M-K2K030□)  | R88G-HPG32A112K0B□<br>(Also used with R88M-K2K030□)  | R88G-HPG32A211K5B□<br>(Also used with R88M-K1K5030□) | R88G-HPG32A33600SB□                                  | R88G-HPG50A451K5B□<br>(R88M-K1K530□) |
| R88M-K1K020□                 | R88G-HPG32A053K0B□<br>(Also used with R88M-K3K030□)  | R88G-HPG32A112K0SB□<br>(Also used with R88M-K2K020□) | R88G-HPG32A211K0SB□                                  | R88G-HPG50A332K0SB□<br>(Also used with R88M-K2K020□) | R88G-HPG50A451K0SB□                  |
| R88M-K1K520□                 | R88G-HPG32A053K0B□<br>(Also used with R88M-K3K030□)  | R88G-HPG32A112K0SB□<br>(Also used with R88M-K2K020□) | R88G-HPG50A213K0B□<br>(Also used with R88M-K3K030□)  | R88G-HPG50A332K0SB□<br>(Also used with R88M-K2K020□) | -                                    |
| R88M-K2K020□                 | R88G-HPG32A053K0B□<br>(Also used with R88M-K3K030□)  | R88G-HPG32A112K0SB□                                  | R88G-HPG50A213K0B□<br>(Also used with R88M-K3K030□)  | R88G-HPG50A332K0SB□                                  | -                                    |
| R88M-K3K020□                 | R88G-HPG32A054K0B□<br>(Also used with R88M-K4K030□)  | R88G-HPG50A115K0B□<br>(Also used with R88M-K5K030□)  | R88G-HPG50A213K0SB□                                  | R88G-HPG65A253K0SB□                                  | -                                    |
| R88M-K4K020□                 | R88G-HPG50A055K0SB□<br>(Also used with R88M-K5K020□) | R88G-HPG50A115K0SB□<br>(Also used with R88M-K3K030□) | R88G-HPG65A205K0SB□<br>(Also used with R88M-K3K030□) | R88G-HPG65A255K0SB□<br>(Also used with R88M-K5K020□) | -                                    |
| R88M-K5K020□                 | R88G-HPG50A055K0SB□                                  | R88G-HPG50A115K0SB□                                  | R88G-HPG65A205K0SB□                                  | R88G-HPG65A255K0SB□                                  | -                                    |

#### ● 1,000-r/min servomotors

| Motor model  | 1/5  | 1/11   | 1/21<br>(1/20 for flange size No.65)                 | 1/33<br>(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□<br>(Also used with R88M-K5K020□) | R88G-HPG65A255K0SB□<br>(Also used with R88M-K5K020□) |
| R88M-K3K010□ | R88G-HPG50A055K0SB□<br>(Also used with R88M-K5K020□) | R88G-HPG50A115K0SB□<br>(Also used with R88M-K5K020□) | R88G-HPG65A205K0SB□<br>(Also used with R88M-K5K020□) | R88G-HPG65A255K0SB□<br>(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-KN02H-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     |              | XW2Z-□□□J-B25     |  |
| C200HW-NC113   |                             |               |                  |              |                   |  |
| CS1W-NC213   | XW2Z-□□□J-A7                |               | XW2B-40J6-2B     |              |                   |  |
| CS1W-NC413   |                             |               |                  |              |                   |  |
| C200HW-NC213   |                             |               |                  |              |                   |  |
| C200HW-NC413   |                             |               |                  |              |                   |  |
| C200HW-NC413   |                             |               |                  |              |                   |  |
| CS1W-NC133   | XW2Z-□□□J-A10               |               | XW2B-20J6-1B     |              |                   |  |
| CS1W-NC233   | XW2Z-□□□J-A11               |               | XW2B-40J6-2B     |              |                   |  |
| CS1W-NC433   |                             |               |                  |              |                   |  |
| CJ1W-NC113   | XW2Z-□□□J-A14               |               | XW2B-20J6-1B     |              |                   |  |
| CJ1W-NC213   | XW2Z-□□□J-A15               |               | XW2B-40J6-2B     |              |                   |  |
| CJ1W-NC413   |                             |               |                  |              |                   |  |
| CJ1W-NC133   | XW2Z-□□□J-A18               |               | XW2B-20J6-1B     |              |                   |  |
| CJ1W-NC233   | XW2Z-□□□J-A19               |               | XW2B-40J6-2B     |              |                   |  |
| CJ1W-NC433   |                             |               |                  |              |                   |  |
| CJ2M-CPU31<br>CJ2M-CPU32<br>CJ2M-CPU33<br>CJ2M-CPU34<br>CJ2M-CPU35<br>CJ2M-CPU11<br>CJ2M-CPU12<br>CJ2M-CPU13<br>CJ2M-CPU14<br>CJ2M-CPU15 | XW2Z-□□□J-A33               |               | For 1 axis       | XW2B-20J6-8A | XW2Z-□□□J-B31     |  |
|  |                             |               | For 2 axis       | XW2B-40J6-9A |                   |  |
| FQM1-MMP22   | General-purpose I/O         | XW2Z-□□□J-A28 | XW2B-80J7-12A    |              | XW2Z-□□□J-B26     |  |
|  | Special I/O                 | XW2Z-□□□J-A30 |                  |              |                   |  |
| FQM1-MMA22   | General-purpose I/O         | XW2Z-□□□J-A28 |                  |              | XW2Z-□□□J-B27     |  |
|  | Special I/O                 | XW2Z-□□□J-A31 |                  |              |                   |  |

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

**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  |

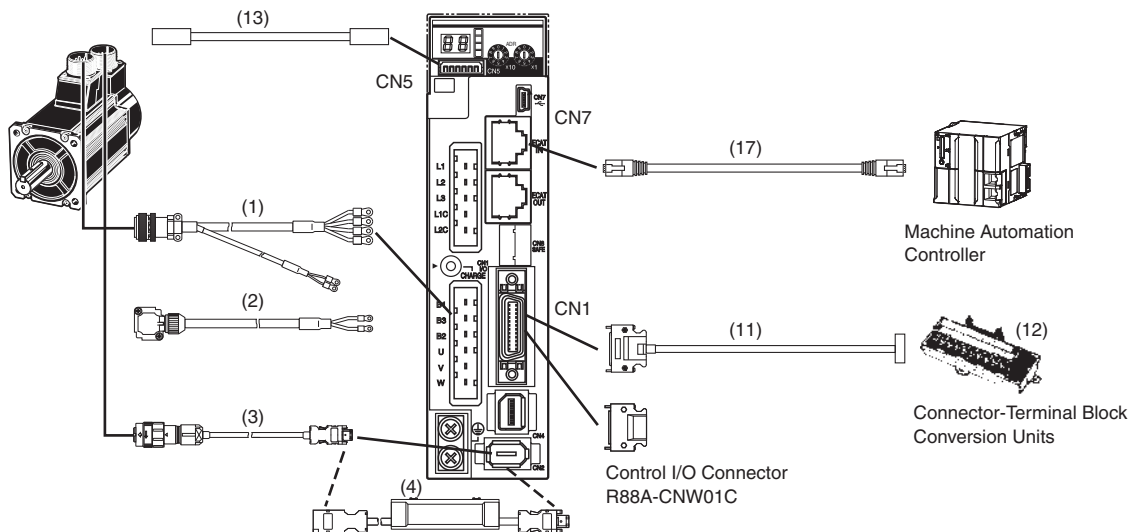
### ● Motion Control Unit Cables

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.

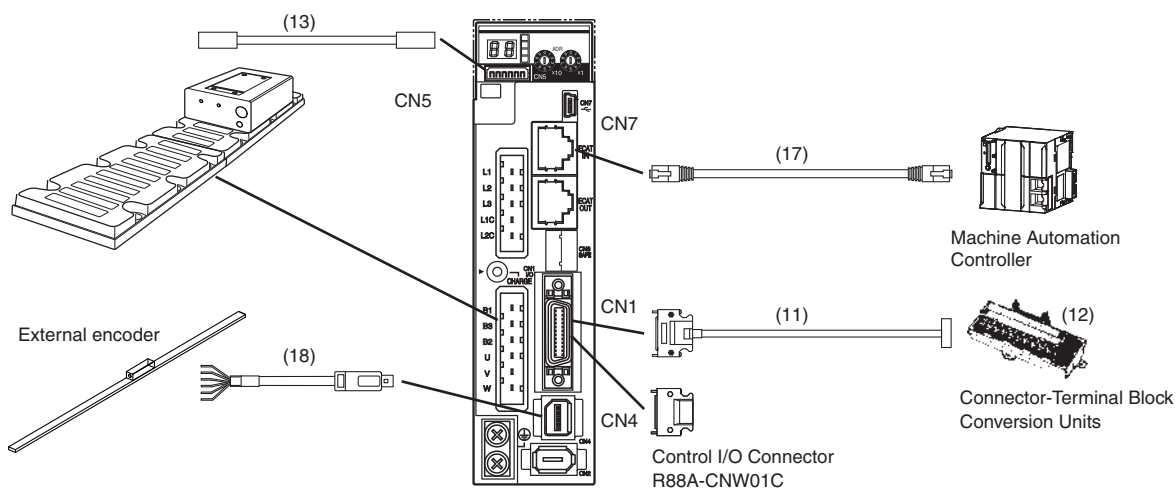
| Motion Control Unit            | Cable      |               | Remarks   |
|--------------------------------|------------|---------------|---|
| CS1W-MC221-V1<br>CS1W-MC421-V1 | For 1 axis | R88A-CPG□□□M1 | The □□□ digits in the model number indicate the cable length. Motion Control Unit Cables come 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

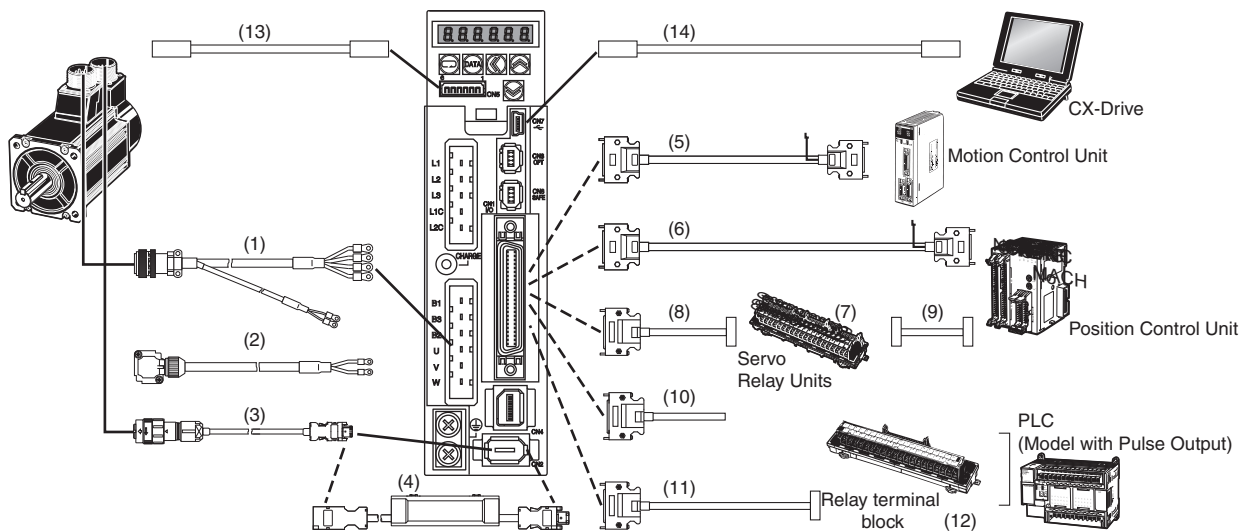
### ● EtherCAT Communications



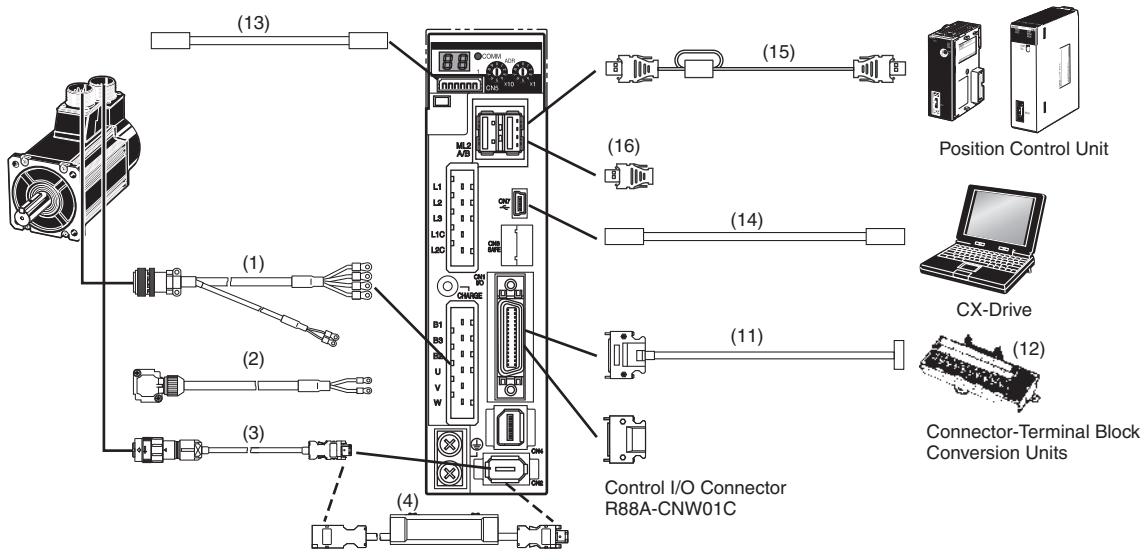
### ● EtherCAT Communications Linear Motor Type



### ● General-purpose Input

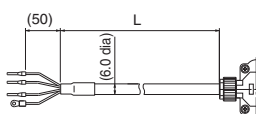
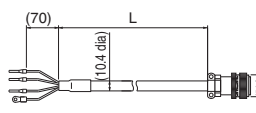
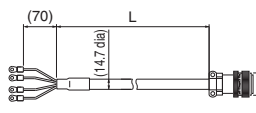
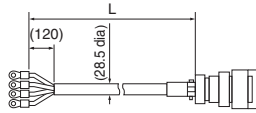
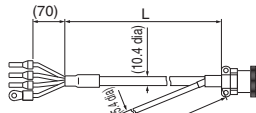
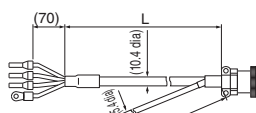
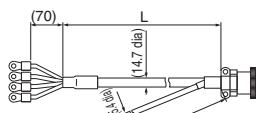


● MECHATROLINK-II Communications

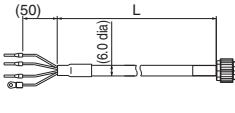
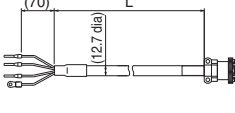
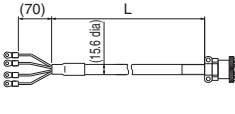
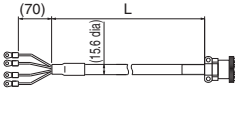
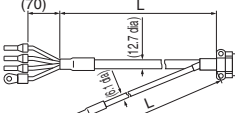
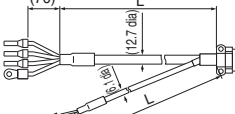
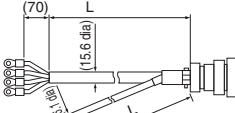


# AC Servomotor/Drive G5-series

## Servomotor Power Cables (For CNB)

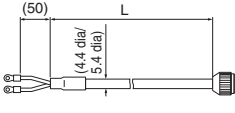
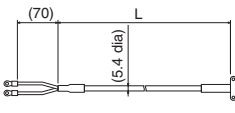
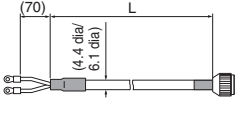
| Symbol | Name  | Connected to   | Model   | Description   |
|--------|---|--|---|---|
| (1)    | Without Brakes<br><br>Standard Servomotor Power Cables for Servomotors without Brakes | [100 V] [200 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 50 to 750 W  | R88A-CAKA□□□S<br>The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long. | <br>[Servomotor Connector]<br>Angle plug:<br>JN8FT04SJ1<br>(Japan Aviation Electronics Industry, Ltd.)<br>Contact pins:<br>ST-TMH-S-C1B-3500-A534G<br>(Japan Aviation Electronics Industry, Ltd.) |
|        |   | [200 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 1 to 2 kW<br>Cylindrical Servomotors,<br>2,000 r/min, 1 to 2 kW<br>Cylindrical Servomotors,<br>1,000 r/min, 900 W  | R88A-CAGB□□□S<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. | <br>[Servomotor Connector]<br>Straight plug:<br>N/MS3106B20-4S<br>(Japan Aviation Electronics Industry, Ltd.)<br>Cable clamp:<br>N/MS3057-12A<br>(Japan Aviation Electronics Industry, Ltd.)      |
|        |   | [400 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 750 W to 2 kW<br>Cylindrical Servomotors,<br>2,000 r/min, 400 W to 2 kW<br>Cylindrical Servomotors,<br>1,000 r/min, 900 W  | R88A-CAGD□□□S<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. | <br>[Servomotor Connector]<br>Straight plug:<br>N/MS3106B22-22S<br>(Japan Aviation Electronics Industry, Ltd.)<br>Cable clamp:<br>N/MS3057-12A<br>(Japan Aviation Electronics Industry, Ltd.)     |
|        |   | [200 V] [400 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 3 to 5 kW<br>Cylindrical Servomotors,<br>2,000 r/min, 3 to 5 kW<br>Cylindrical Servomotors,<br>1,000 r/min, 2 to 4.5 kW  | R88A-CAGE□□□S<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. | <br>[Servomotor Connector]<br>Straight plug:<br>N/MS3106B32-17S<br>(Japan Aviation Electronics Industry, Ltd.)<br>Cable clamp:<br>N/MS3057-20A<br>(Japan Aviation Electronics Industry, Ltd.)     |
|        |   | <b>Note:</b> 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<br><br>Standard Servomotor Power Cables for Servomotors with Brakes       | [200 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 1 to 2 kW<br>Cylindrical Servomotors,<br>2,000 r/min, 1 to 2 kW<br>Cylindrical Servomotors,<br>1,000 r/min, 900 W  | R88A-CAGB□□□B<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. | <br>[Servomotor Connector]<br>Straight plug:<br>N/MS3106B20-18S<br>(Japan Aviation Electronics Industry, Ltd.)<br>Cable clamp:<br>N/MS3057-12A<br>(Japan Aviation Electronics Industry, Ltd.)   |
|        |   | [400 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 750W to 2 kW<br>Cylindrical Servomotors,<br>2,000 r/min, 400 W to 2 kW<br>Cylindrical Servomotors,<br>1,000 r/min, 900 W   | R88A-CAKF□□□B<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. | <br>[Servomotor Connector]<br>Straight plug:<br>N/MS3106B24-11S<br>(Japan Aviation Electronics Industry, Ltd.)<br>Cable clamp:<br>N/MS3057-16A<br>(Japan Aviation Electronics Industry, Ltd.)   |
|        |   | [200 V] [400 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 3 to 5 kW<br>Cylindrical Servomotors,<br>2,000 r/min, 3 to 5 kW<br>Cylindrical Servomotors,<br>1,000 r/min, 2 to 3 kW  | R88A-CAGD□□□B<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. | <br>[Servomotor Connector]<br>Straight plug:<br>N/MS3106B24-11S<br>(Japan Aviation Electronics Industry, Ltd.)<br>Cable clamp:<br>N/MS3057-16A<br>(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)

| Symbol | Name   | Connected to   | Model  | Description  |  |
|--------|--|--|--|--|--|
| (1)    | Without Brakes<br><br>Robot Servomotor Power Cables for Servomotors without Brakes | [100 V] [200 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 50 to 750 W  | R88A-CAKA□□□SR<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]<br>Angle plug:<br>JN8FT04SJ1<br>(Japan Aviation Electronics Industry, Ltd.)<br>Connector pins:<br>ST-TMH-S-C1B-3500-A534G<br>(Japan Aviation Electronics Industry, Ltd.) |  |
|        |  | [200 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 1 to 2 kW<br>Cylindrical Servomotors,<br>2,000 r/min, 1 to 2 kW<br>Cylindrical Servomotors,<br>1,000 r/min, 900 W  | R88A-CAGB□□□SR<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]<br>Straight plug:<br>N/MS3106B20-4S<br>(Japan Aviation Electronics Industry, Ltd.)<br>Cable clamp:<br>N/MS3057-12A<br>(Japan Aviation Electronics Industry, Ltd.)        |  |
|        |  | [400 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 750 W to 2 kW<br>Cylindrical Servomotors,<br>2,000 r/min, 400 W to 2 kW<br>Cylindrical Servomotors,<br>1,000 r/min, 900 W  | R88A-CAGD□□□SR<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]<br>Straight plug:<br>N/MS3106B22-22S<br>(Japan Aviation Electronics Industry, Ltd.)<br>Cable clamp:<br>N/MS3057-12A<br>(Japan Aviation Electronics Industry, Ltd.)       |  |
|        |  | [200 V] [400 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 3 to 5 kW<br>Cylindrical Servomotors,<br>2,000 r/min, 3 to 5 kW<br>Cylindrical Servomotors,<br>1,000 r/min, 2 to 4.5 kW  | R88A-CAGD□□□SR<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]<br>Straight plug:<br>N/MS3106B22-22S<br>(Japan Aviation Electronics Industry, Ltd.)<br>Cable clamp:<br>N/MS3057-12A<br>(Japan Aviation Electronics Industry, Ltd.)       |  |
|        | With Brakes<br><br>Robot Servomotor Power Cables for Servomotors with Brakes       | <b>Note:</b> 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. |  |  |  |
|        |  | [200 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 1 to 2 kW<br>Cylindrical Servomotors,<br>2,000 r/min, 1 to 2 kW<br>Cylindrical Servomotors,<br>1,000 r/min, 900 W  | R88A-CAGB□□□BR<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]<br>Straight plug:<br>N/MS3106B20-18S<br>(Japan Aviation Electronics Industry, Ltd.)<br>Cable clamp:<br>N/MS3057-12A<br>(Japan Aviation Electronics Industry, Ltd.)      |  |
|        |  | [400 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 750W to 2 kW<br>Cylindrical Servomotors,<br>2,000 r/min, 400 W to 2 kW<br>Cylindrical Servomotors,<br>1,000 r/min, 900 W   | R88A-CAKF□□□BR<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]<br>Straight plug:<br>N/MS3106B24-11S<br>(Japan Aviation Electronics Industry, Ltd.)<br>Cable clamp:<br>N/MS3057-16A<br>(Japan Aviation Electronics Industry, Ltd.)     |  |
|        |  | [200 V] [400 V]<br>Cylindrical Servomotors,<br>3,000 r/min, 3 to 5 kW<br>Cylindrical Servomotors,<br>2,000 r/min, 3 to 5 kW<br>Cylindrical Servomotors,<br>1,000 r/min, 2 to 3 kW  | R88A-CAGD□□□BR<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]<br>Straight plug:<br>N/MS3106B24-11S<br>(Japan Aviation Electronics Industry, Ltd.)<br>Cable clamp:<br>N/MS3057-16A<br>(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)

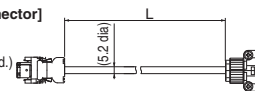


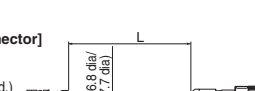
## Brake Cables

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

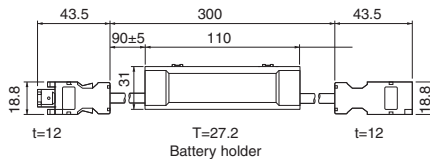
# AC Servomotor/Drive G5-series

## Encoder Cables (for CN2)

| Symbol | Name   | Connected to   | Model  | Description  |
|--------|--|--|--|--|
| (3)    | Non-flexible Cables<br>Standard Encoder Cables with Connectors | Cylindrical Servomotors, 3,000 r/min, 50 to 750 W (Absolute encoder/ Incremental encoder)  | R88A-CRKA□□□C<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: 5.2 dia, 30 to 50 m: 6.8 dia)  | <p>[Servo Drive Connector]<br/>Connector: 55100-0670 (Molex Japan Co., Ltd.)</p>  <p>[Servomotor Connector]<br/>Angle clamp: JN6FR07SM1 (Japan Aviation Electronics Industry, Ltd.)<br/>Connector pins: LY10-C1-A1-10000 (Japan Aviation Electronics Industry, Ltd.)</p>  |
|        |  | 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-CRKC□□□N<br>The empty boxes in the model number are for the cable length. The cable can be 3, 5, 10, 15, 20, 30, 40, or 50 m long.  | <p>[Servo Drive Connector]<br/>Connector: 55100-0670 (Molex Japan Co., Ltd.)</p>  <p>[Servomotor Connector]<br/>Straight plug: JN2DS10SL2-R (Japan Aviation Electronics Industry, Ltd.)<br/>Contact: JN1-22-20S-10000 (Japan Aviation Electronics Industry, Ltd.)</p>     |
| (3)    | Flexible Cables<br>Robot Encoder Cables with Connectors        | Cylindrical Servomotors, 3,000 r/min, 50 to 750 W (Absolute encoder/ Incremental encoder)  | R88A-CRKA□□□CR<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: 5.2 dia, 30 to 50 m: 6.8 dia) | <p>[Servo Drive Connector]<br/>Connector: 55100-0670 (Molex Japan Co., Ltd.)</p>  <p>[Servomotor Connector]<br/>Angle clamp: JN6FR07SM1 (Japan Aviation Electronics Industry, Ltd.)<br/>Connector pins: LY10-C1-A1-10000 (Japan Aviation Electronics Industry, Ltd.)</p>  |
|        |  | 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-CRKC□□□NR<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: 6.8 dia, 30 to 50 m: 7.7 dia) | <p>[Servo Drive Connector]<br/>Connector: 55100-0670 (Molex Japan Co., Ltd.)</p>  <p>[Servomotor Connector]<br/>Straight plug: JN2DS10SL2-R (Japan Aviation Electronics Industry, Ltd.)<br/>Cable clamp: JN1-22-22S-10000 (Japan Aviation Electronics Industry, Ltd.)</p> |

**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 |   |
| (4)    | 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□□□◇<br>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<br>Direct connection cable for Position Control Unit (High-speed type) | Line-driver output type (High-speed type) for CJ1W-NC234/434      | For 1 axis<br>XW2Z-□□□J-G9<br>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<br>XW2Z-□□□J-G1<br>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<br>XW2Z-□□□J-G13<br>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<br>XW2Z-□□□J-G5<br>The empty boxes in the model number are for the cable length. The cable can be 1, or 3 m long.   |

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

**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

| Symbol | Name   |   | Connected to                                       |   |                              | Model   |   |
|--------|--|---|--|---|------------------------------|---|---|
| (9)    | Servo Relay Units/Connection Cables                      | Connection Cables                         | Servo Relay Unit Cables for Position Control Units | For FQM1-MMA22 (Analog output)<br>For FQM1-MMP22 (Pulse train output) | General-purpose I/O (26 pin) | For 2 axis  | XW2Z-□□□J-A28<br>The empty boxes in the model number are for the cable length.<br>The cable can be 0.5, 1, or 2 m long. |
|        |  |   |  | For FQM1-MMA22 (Analog output)  | Special I/O (40 pin)         | For 2 axis  | XW2Z-□□□J-A31<br>The empty boxes in the model number are for the cable length.<br>The cable can be 0.5, 1, or 2 m long. |
|        |  |   |  | For FQM1-MMP22 (Pulse train output)                                   | Special I/O (40 pin)         | For 2 axis  | XW2Z-□□□J-A30<br>The empty boxes in the model number are for the cable length.<br>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<br>The empty boxes in the model number are for the cable length.<br>The cable can be 0.5, 1 or 1 m long. |   |
| (11)   | For Connector Terminal Block                             | Connector Terminal Block Cables           | Cable for General-purpose Controllers              |   |                              | XW2Z-□□□J-B24<br>The empty boxes in the model number are for the cable length.<br>The cable can be 1, or 2 m long.    |   |
|        |  |   | Cable for MECHATROLINK-II Communications           |   |                              | XW2Z-□□□J-B34<br>The empty boxes in the model number are for the cable length.<br>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   |   |
|        |  |   | Cable for MECHATROLINK-II Communications           |   | M3 screws                    | XW2D-50G6   |   |
|        |  |   |  |   | M3 screws                    | XW2B-20G4   |   |
|        |  |   | Cable for MECHATROLINK-II Communications           |   | M3.5 screws                  | XW2B-20G5   |   |
|        |  |   |  |   | M3 screws                    | XW2D-20G6   |   |

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

## Monitor Connector (for CN5)

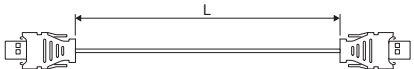
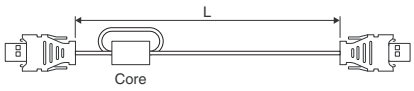
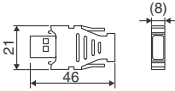
| Symbol | Name                 | Lengths | Model        |
|--------|----------------------|---------|--------------|
| (13)   | Analog Monitor Cable | 1 m     | R88A-CMK001S |

## 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 shield, equipped with a ferrite core for noise immunity, and Supporting for USB2.0. The Mini B type USB cable can be used.

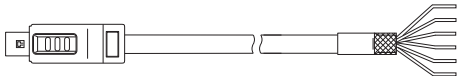
## MECHATROLINK-II Communication Cable

| Symbol | Name   | Length (L)                             | Model (OMRON model number) | Yaskawa model number | Description   |   |
|--------|--|--|----------------------------|----------------------|---|---|
| (15)   | MECHATROLINK-II Communication Cable<br>* 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)<br> |   |
|        |  | 1m                                     | FNY-W6002-01               | JEPMC-W6002-01-E     |   |   |
|        |  | 3m                                     | FNY-W6002-03               | JEPMC-W6002-03-E     |   |   |
|        |  | 5m                                     | FNY-W6002-05               | JEPMC-W6002-05-E     |   |   |
|        | MECHATROLINK-II Communication Cable  | 0.5m                                   | FNY-W6003-A5               | JEPMC-W6003-A5       | (with ring core and USB connector on both ends)<br>    |   |
|        |  | 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       |   |   |
|        | (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"> <li>• Use a category 5 or higher cable with double, aluminum tape and braided shielding.</li> </ul> Connector (Modular Plug) Specifications <ul style="list-style-type: none"> <li>• Use a category 5 or higher, shielded connector.</li> </ul> |

### External encoder Cables

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

### 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-CNK02R |
|            |                                   | 3,000 r/min, 1 to 5 kW (200 V)/750 W to 5 kW (400 V)<br>2,000 r/min, 1,000 r/min | R88A-CNK04R |
| -          | Power cable connector             | 750 W max. (100 V/200 V)   | R88A-CNK11A |
| -          | Brake cable connector             | 750 W max. (100 V/200 V)   | R88A-CNK11B |

## 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<br>AC SERVOMOTOR AND SERVO DRIVE USER'S MANUAL   |
| I572             | SBCE-358          | R88D-KN□-ML2/R88M-K     | G5-SERIES<br>MECHATROLINK-II Communications<br>AC SERVOMOTOR AND SERVO DRIVE USER'S MANUAL               |
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