# 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)

Programmable Controller
CJ1

Position Control Unit
CJ1W-NC□71

**MECHATROLINK-II**

Programmable Controller
CS1

Position Control Unit
CS1W-NC□71

### 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.

USB communi-cations

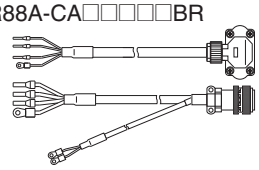
## Servo Drive

- **G5 Series driver R88D-KN□□-ML2**

## I/O 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)

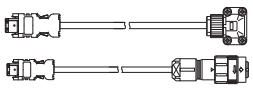
- Non-flexible Cables R88A-CAKA□□□B
- Flexible Cables R88A-CAKA□□□BR

## Motor power signals

## Feedback Signals

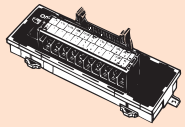
### Encoder Cables

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



## Connector-Terminal Block Conversion Units and Cable

- **Connector-Terminal Block Conversion Unit XW2□-20G□**



- **Cable XW2Z-□□□J-B34**

## AC Servomotors

- **G5 Series motor R88M-K**

**3000r/min**
**2000r/min**
**1000r/min**

INC ABS INC

External scale

### Peripheral Devices

- 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

- Backlash: 3 Arcminutes max.
  R88G-HPG
- Backlash: 15 Arcminutes Max.
  R88G-VRXF

## MEMO

# Ordering Information

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


**Interpreting Model Numbers ..... B-2**

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

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

**Ordering 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.

# 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) **INC** |
| | | H | 200 VAC (with incremental encoder specifications) **INC** |
| | | L | 100 VAC (with incremental encoder specifications) **INC** |
| | | C | 400 VAC (with absolute encoder specifications) **ABS/INC** |
| | | T | 200VAC (with absolute encoder specifications) **ABS/INC** |
| | | S | 100 VAC (with absolute encoder specifications) **ABS/INC** |
| (6) | Option | 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 |

**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 |

### ● 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 -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.)

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

**Backlash = 3' Max.**

**R88G-HPG 14A 05 100 S B J**

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

| No | Item | Symbol | Specifications |
|---|---|---|---|
| (1) | Decelerator for Servomotors Backlash = 3' Max. | | |
| (2) | Flange Size Number | 11B | □40 |
| | | 14A | □60 |
| | | 20A | □90 |
| | | 32A | □120 |
| | | 50A | □170 |
| | | 65A | □230 |
| (3) | Gear Ratio | 05 | 1/5 |
| | | 09 | 1/9 |
| | | 11 | 1/11 |
| | | 20 | 1/20 |
| | | 21 | 1/21 |
| | | 25 | 1/25 |
| | | 33 | 1/33 |
| | | 45 | 1/45 |
| (4) | Applicable Servomotor Capacity | 050 | 50 W |
| | | 100 | 100 W |
| | | 200 | 200 W |
| | | 400 | 400 W |
| | | 750 | 750 W |
| | | 900 | 900 W |
| | | 1K0 | 1 kW |
| | | 1K5 | 1.5 kW |
| | | 2K0 | 2 kW |
| | | 3K0 | 3 kW |
| | | 4K0 | 4 kW |
| | | 4K5 | 4.5 kW |
| | | 5K0 | 5 kW |
| (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-VRXF 09 B 100 C J**

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

| No | Item | Symbol | Specifications |
|---|---|---|---|
| (1) | Decelerator for Servomotor Backlash: 15 Arcminutes max. | | |
| (2) | Gear Ratio | 05 | 1/5 |
| | | 09 | 1/9 |
| | | 15 | 1/15 |
| | | 25 | 1/25 |
| (3) | Flange Size Number | B | □52 |
| | | C | □78 |
| | | D | □98 |
| (4) | Applicable Servomotor Capacity | 100 | 50 W, 100 W |
| | | 200 | 200 W |
| | | 400 | 400 W |
| | | 750 | 750 W |
| (5) | Backlash | C | Backlash = 15' Max |
| (6) | Option | J | With key and tap |

# Table of AC Servomotor Variations

## R88M-K□□□□□□-□□□□

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

| (3) | (4) | (5) | | (6) | | | | | | (7) | | (8) | | (9) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Applicable Servomotor Capacity | Rotation speed | Model | Applied Voltage | | | | | | With brake / Without brake | | Models with oil seals | | Shaft type | |
| | | | | INC | INC | INC | ABS | ABS | ABS | – | B | | | | |
| | | | | 400 | 200 | 100 | 400 | 200 | 100 | | | | | | |
| | | | | F | H | L | C | T | S | Blank | With brake | Blank | O | Blank | S2 |
| 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 | 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 | 1,000 r/min | R88M-K90010 | √ | √ | | √ | √ | | √ | √ | √ | √ | √ | √ |
| | 2 kW | | R88M-K2K010 | √ | √ | | √ | √ | | √ | √ | √ | √ | √ | √ |
| | 3 kW | | R88M-K3K010 | √ | √ | | √ | √ | | √ | √ | √ | √ | √ | √ |
| | 4.5 kW | | R88M-K4K510 | | | | √ | √ | | √ | √ | √ | √ | √ | √ |
| | 6 kW | | R88M-K6K010 | | | | √ | √ | | √ | √ | √ | √ | √ | √ |
| **Blank: 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) INC<br>H: 200 VAC (with incremental encoder) INC<br>L: 100 VAC (with incremental encoder) INC<br>C: 400 VAC (with absolute encoder) ABS/INC<br>T: 200 VAC (with absolute encoder) ABS/INC<br>S: 100 VAC (with absolute encoder) ABS/INC | | | | | | Blank: Without brake<br>B: 24 VDC With brake | | Blank: Without oil seals<br>O: With oil seals | | Blank: Straight shaft<br>S2: With key and tap | |

✻1. R88M-K05030H-□, R88M-K05030T-□, can be used for Power Supply Voltage of 100/200VAC.
✻2. The rated speed is 1,500 r/min.

# Ordering Information

## AC Servo Drives

### EtherCAT Communications

| Specifications | | Model |
|---|---|---|
| Power Model Supply Voltage | Applicable Servomotor Capacity | |
| Single-phase 100 VAC | 50 W | R88D-KNA5L-ECT |
| | 100 W | R88D-KN01L-ECT |
| | 200 W | R88D-KN02L-ECT |
| | 400 W | R88D-KN04L-ECT |
| Single-phase/three-phase 200 VAC | 100 W | R88D-KN01H-ECT |
| | 200 W | R88D-KN02H-ECT |
| | 400 W | R88D-KN04H-ECT |
| | 750 W | R88D-KN08H-ECT |
| | 1 kW | R88D-KN10H-ECT |
| | 1.5 kW | R88D-KN15H-ECT |
| Three-phase 200 VAC | 2 kW | R88D-KN20H-ECT |
| | 3 kW | R88D-KN30H-ECT |
| | 5 kW | R88D-KN50H-ECT |
| | 7.5 kW | R88D-KN75H-ECT |
| | 15 kW | R88D-KN150H-ECT |
| Three-phase 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 100 VAC | 50 W | R88D-KTA5L |
| | 100 W | R88D-KT01L |
| | 200 W | R88D-KT02L |
| | 400 W | R88D-KT04L |
| Single-phase/three-phase 200 VAC | 100 W | R88D-KT01H |
| | 200 W | R88D-KT02H |
| | 400 W | R88D-KT04H |
| | 750 W | R88D-KT08H |
| | 1 kW | R88D-KT10H |
| | 1.5 kW | R88D-KT15H |
| Three-phase 200 VAC | 2 kW | R88D-KT20H |
| | 3 kW | R88D-KT30H |
| | 5 kW | R88D-KT50H |
| | 7.5 kW | R88D-KT75H |
| | 15 kW | R88D-KT150H |
| Three-phase 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

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

### MECHATROLINK-II Communications

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