

## Accurax G5 Servo System

Extreme mechatronics meets X-Stream Automation



» Sub micron precision and ms settling time

» Motion network and safety built-in

» Double registration and full closed loop

## Extreme mechatronics... At the heart of every great machine

*Great machines are born from a perfect match between control and mechanics. Accurax G5 gives you the extra edge to build more accurate, faster, smaller and safer machines. You will benefit from an almost 25% reduction in motor weight, and gain 50% cabinet space.*

*You will achieve sub micron precision and ms settling time. Some might call it perfection, we just call it tireless innovation to help you build great machines.*

### Rugged and smart design

- IP67 motor and connectors
- No flying leads
- 5G vibration resistance

### 40% reduction in motor cogging

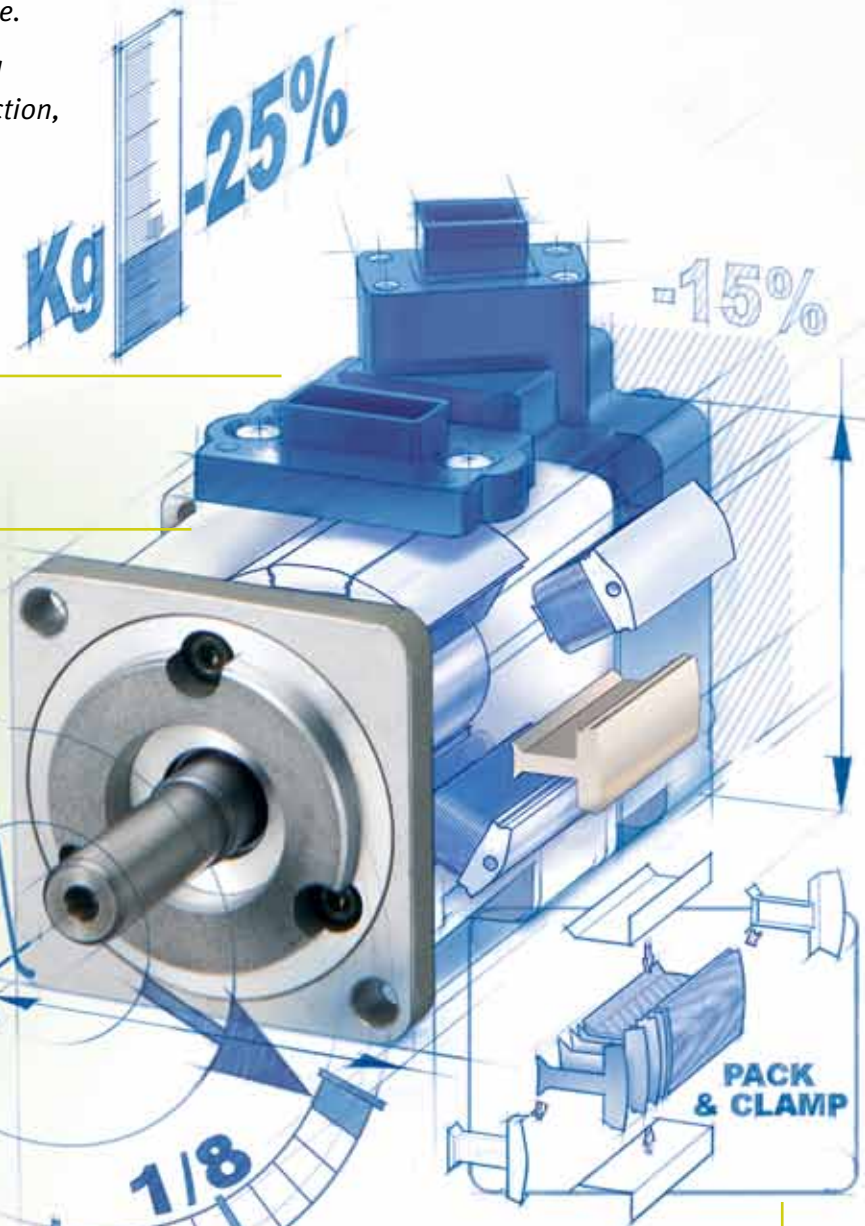
- Use of 10 pole motors
- Improved technology to minimize the encoder non-linear errors

### 8 times higher resolution

- 20 bit encoder
- Faster processor

### Panel operator functions

- Display shows user selected data
- Keys for setting/monitoring parameters
- 2 configurable analog outputs for monitoring



### 25% lighter and 15% smaller

- Patented new stator PACK & CLAMP technology
- 40% reduction in iron losses
- 45% smaller encoder

**Up to 50% cabinet size reduction**

- Up to 40% smaller drive
- Extra 10% saving thanks to side by side mounting

**Safety conformance**

- PL-d according ISO13849-1:2008
- STO: IEC61800-5-2:2007
- SIL2 according to EN61508:2001
- Cat.3: EN954-1:1996



**Fast & accurate**

- 5 times faster settling time -0~2 ms
- 2 kHz speed response
- Torque feed forward reduces following error

**Settling time**



**Speed response**



**Torque feed forward**



**100,000 hr operation in rugged industrial conditions**

- No fan below 1 kW
- Long life capacitors

**Load vibration suppression**

- Up to 4 preset frequencies
- Setting frequency from 1 to 200Hz



**Vibration suppression**



# ...meets X-Stream Automation

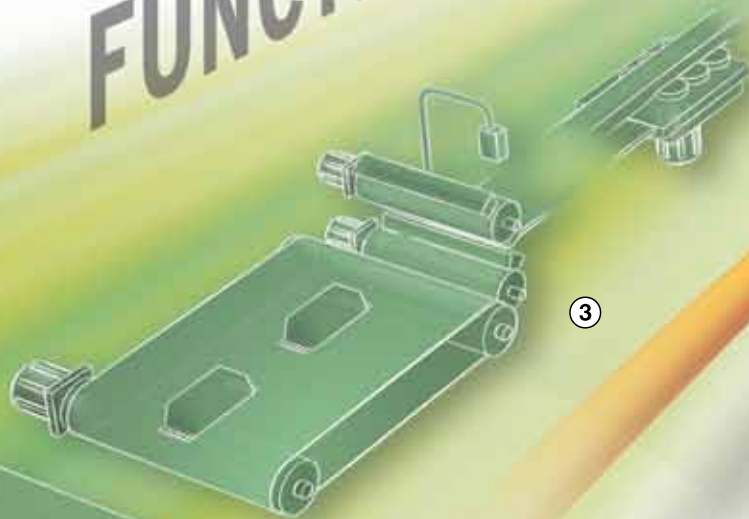
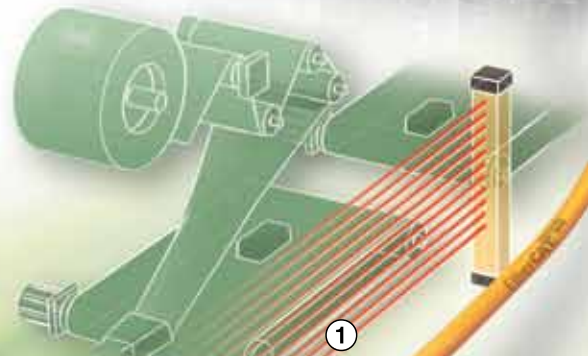
Accurax G5 seamlessly integrates into Omron's ONE SOFTWARE – ONE CONNECTION automation architecture. It utilizes Ethernet connectivity and is fully configured through the CX-Drive component of the CX-One software suite. Accurax G5 also simplifies your mechanical and electrical design by including double registration input, full closed loop and multi-drive safety functionality.

① **Built-in safety: multi-drives in a single safety relay circuit**  
The two safety inputs and the external device monitoring (EDM) output can be linked from one servo drive to another without using additional safety relays. Up to 8 servo drives can be connected to a single safety relay, saving hardware and wiring costs.

② **Full closed loop**  
Accurax G5 has a built-in external encoder input for full closed loop operation, for when additional accuracy is required. The external encoder input eliminates the errors caused by, for example, slip in the material.

③ **Double registration input**  
Accurax G5 increases application versatility by providing 2 independent registration inputs per axis, especially relevant for applications such as flow wrappers. By registering the product input position and the mark position on the film, the system can make relative corrections ensuring high accuracy with a simple mechanical design.

INTEGRATED  
FUNCTIONALITY





Trajexia machine controller

NS HMI

Ethernet

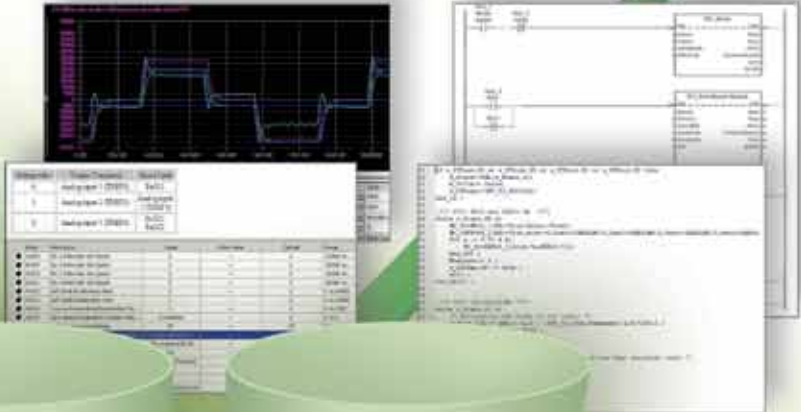
EtherCAT

ETHERNET  
CONNECTIVITY

INTUITIVE  
SOFTWARE

- Open connectivity**
- DeviceNet
  - PROFIBUS
  - CANopen
  - MECHATROLINK II
  - EtherCAT

- One software - One connection**
- Full access to all devices from one connection
  - One software for machine control programming and system setup



Auto tuning wizard

FFT function

Easy drive configuration and monitoring

Real time and Data trace

Alarm History/Trace

CAM control, Registration, Interpolation, Axes synchronization

Data trace, Alarm display, Axis configuration wizard, CAM editor

IEC languages

Servo setup

Machine control

R88D-KN□□□-ML2, R88D-KT□, R88M-K□

# Accurax G5 Servo System

**Accurate motion control in a compact size servo drive family. MECHATROLINK-II motion bus and safety built-in.**

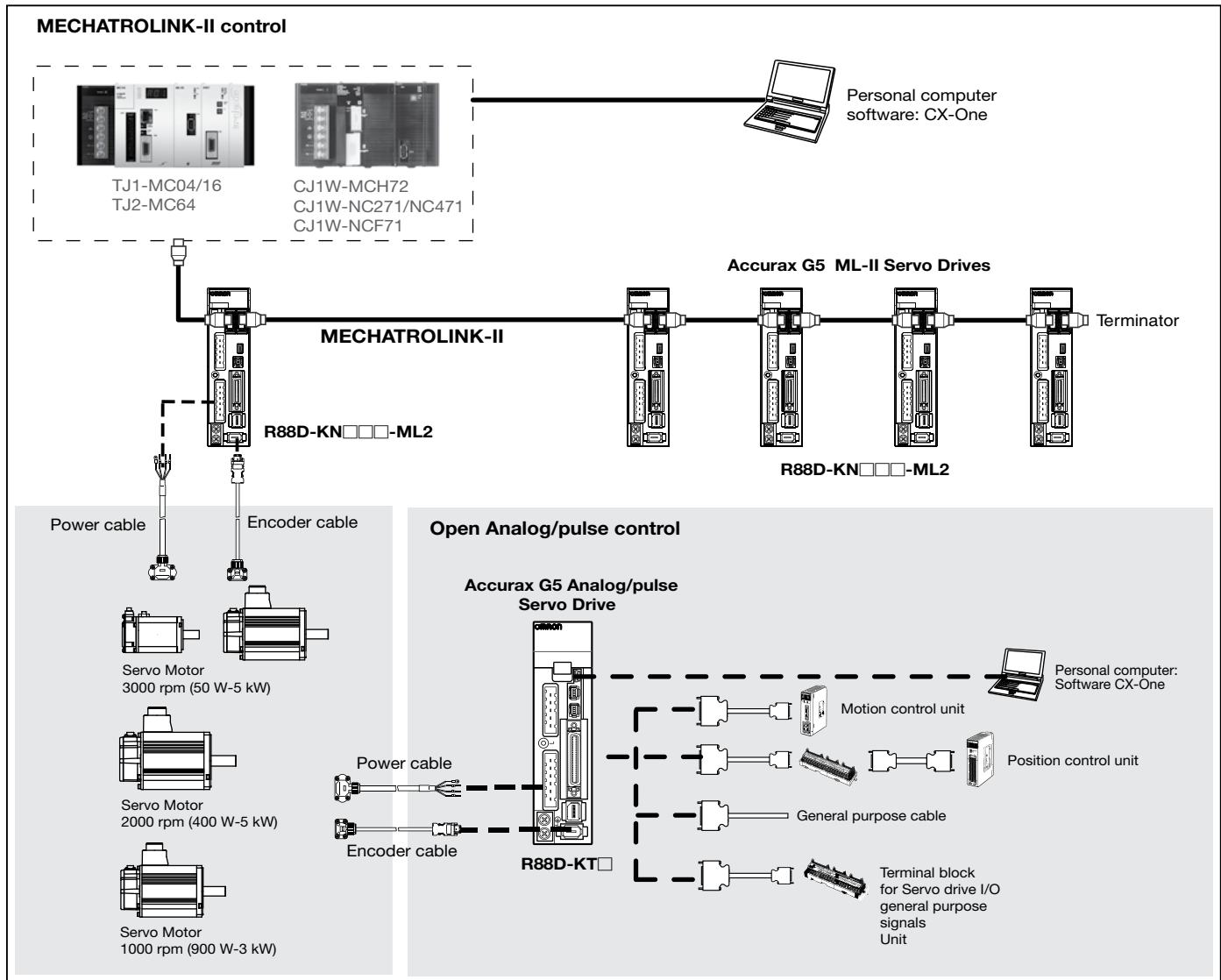
- MECHATROLINK-II and Analog/Pulse servo drive models
- Safety conforming ISO13849-1 Performance Level D
- High-response frequency of 2 kHz
- High accuracy provided by 20 bits encoder
- Full closed loop encoder built-in
- Real time auto-tuning
- Advanced tuning algorithms (Anti-vibration function, torque feedforward, disturbance observer)
- IP67 protection in all motor models

**Ratings**

- 120 VAC Single-phase 50 W to 400 W (1.3 N•m)
- 230 VAC Single-/Three-phase 50 W to 1.5 kW (4.77 N•m)
- 230 VAC Three-phase 2 kW to 5 kW (15.9 N•m)
- 460 VAC Three-phase 400 W to 5 kW (28.7 N•m)



**System Configuration**



Servo Motor Type Designation

**R88M-K05030H-BOS2**

Accurax G5 Series 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
5K0	5 kW

Rated Speed (r/min)

10	1000
20	2000
30	3000

Shaft end specifications

Blank	Straight shaft, no key
S2	Straight, key, tapped (standard)

Oil seal specifications

Blank	No oil seal
O	Oil seal

Brake specifications

Blank	No brake
B	Brake

Voltage and encoder specifications

- L: 120 V and 20-bit incremental encoder
- S: 120 V and 17-bit absolute encoder
- H: 230 V and 20-bit incremental encoder
- T: 230 V and 17-bit absolute encoder
- F: 400 V and 20-bit incremental encoder
- C: 400 V and 17-bit absolute encoder

Servo Drive Type Designation

**R88D-KN01H-ML2**

Accurax G5 Series Servo Drive

Drive Type

- T: Analog/pulse type
- N: Network type

Model





- Blank: Analog/pulse type
- ML2: MECHATROLINK-II comms

Capacity and Voltage

Voltage	Code	Output
120 V	A5L	50 W
	01L	100 W
	02L	200 W
	04L	400 W
230 V	01H	100 W
	02H	200 W
	04H	400 W
	08H	750 W
	10H	1 kW
	15H	1.5 kW
	20H	2 kW
460 V	30H	3 kW
	50H	5 kW
	06F	600 W
	10F	1 kW
	15F	1.5 kW
	20F	2 kW
	30F	3 kW
	50F	5 kW

Servo Motor/Servo Drive Combination





MECHATROLINK-II Servo Drives with Servo Motors

Appearance	Rotary Servo Motor				Servo Drive with MECHATROLINK-II models					
	Voltage	Speed	Rated torque	Capacity	Model	120 V	230 V	460 V		
	120 V	3000 rpm	0.16 N•m	50 W	R88M-K05030(H/T)-□	R88D-KNA5L-ML2	-	-		
			0.32 N•m	100 W	R88M-K10030(L/S)-□	R88D-KN01L-ML2	-	-		
			0.64 N•m	200 W	R88M-K20030(L/S)-□	R88D-KN02L-ML2	-	-		
			1.3 N•m	400 W	R88M-K40030(L/S)-□	R88D-KN04L-ML2	-	-		
	230 V	3000 rpm	0.16 N•m	50 W	R88M-K05030(H/T)-□	-	R88D-KN01H-ML2	-		
			0.32 N•m	100 W	R88M-K10030(H/T)-□	-	R88D-KN01H-ML2	-		
			0.64 N•m	200 W	R88M-K20030(H/T)-□	-	R88D-KN02H-ML2	-		
			1.3 N•m	400 W	R88M-K40030(H/T)-□	-	R88D-KN04H-ML2	-		
			2.4 N•m	750 W	R88M-K75030(H/T)-□	-	R88D-KN08H-ML2	-		
			3.18 N•m	1 kW	R88M-K1K030(H/T)-□	-	R88D-KN15H-ML2	-		
	230 V	3000 rpm	4.77 N•m	1.5 kW	R88M-K1K530(H/T)-□	-	R88D-KN15H-ML2	-		
			6.37 N•m	2 kW	R88M-K2K030(H/T)-□	-	R88D-KN20H-ML2	-		
			9.55 N•m	3 kW	R88M-K3K030(H/T)-□	-	R88D-KN30H-ML2	-		
			12.7 N•m	4 kW	R88M-K4K030(H/T)-□	-	R88D-KN50H-ML2	-		
			15.9 N•m	5 kW	R88M-K5K030(H/T)-□	-	R88D-KN50H-ML2	-		
			2.39 N•m	750 W	R88M-K75030(F/C)-□	-	-	R88D-KN10F-ML2		
			3.18 N•m	1 kW	R88M-K1K030(F/C)-□	-	-	R88D-KN15F-ML2		
			4.77 N•m	1.5 kW	R88M-K1K530(F/C)-□	-	-	R88D-KN15F-ML2		
	400 V	3000 rpm	6.37 N•m	2 kW	R88M-K2K030(F/C)-□	-	-	R88D-KN20F-ML2		
			9.55 N•m	3 kW	R88M-K3K030(F/C)-□	-	-	R88D-KN30F-ML2		
			12.7 N•m	4 kW	R88M-K4K030(F/C)-□	-	-	R88D-KN50F-ML2		
			15.9 N•m	5 kW	R88M-K5K030(F/C)-□	-	-	R88D-KN50F-ML2		
			230 V	2000 rpm	4.77 N•m	1 kW	R88M-K1K020(H/T)-□	-	R88D-KN10H-ML2	-
					7.16 N•m	1.5 kW	R88M-K1K520(H/T)-□	-	R88D-KN15H-ML2	-
9.55 N•m	2 kW	R88M-K2K020(H/T)-□			-	R88D-KN20H-ML2	-			
14.3 N•m	3 kW	R88M-K3K020(H/T)-□			-	R88D-KN30H-ML2	-			
19.1 N•m	4 kW	R88M-K4K020(H/T)-□			-	R88D-KN50H-ML2	-			
23.9 N•m	5 kW	R88M-K5K020(H/T)-□			-	R88D-KN50H-ML2	-			
400 V	2000 rpm	1.91 N•m	400 W	R88M-K40020(F/C)-□	-	-	R88D-KN06F-ML2			
		2.86 N•m	600 W	R88M-K60020(F/C)-□	-	-	R88D-KN06F-ML2			
		4.77 N•m	1 kW	R88M-K1K020(F/C)-□	-	-	R88D-KN10F-ML2			
		7.16 N•m	1.5 kW	R88M-K1K520(F/C)-□	-	-	R88D-KN15F-ML2			
		9.55 N•m	2 kW	R88M-K2K020(F/C)-□	-	-	R88D-KN20F-ML2			
		14.3 N•m	3 kW	R88M-K3K020(F/C)-□	-	-	R88D-KN30F-ML2			
		19.1 N•m	4 kW	R88M-K4K020(F/C)-□	-	-	R88D-KN50F-ML2			
23.9 N•m	5 kW	R88M-K5K020(F/C)-□	-	-	R88D-KN50F-ML2					
	230 V	1000 rpm	8.59 N•m	900 W	R88M-K90010(H/T)-□	-	R88D-KN15H-ML2	-		
			19.1 N•m	2 kW	R88M-K2K010(H/T)-□	-	R88D-KN30F-ML2	-		
			28.7 N•m	3 kW	R88M-K3K010(H/T)-□	-	R88D-KN50F-ML2	-		
	400 V	1000 rpm	8.59 N•m	900 W	R88M-K90010(F/C)-□	-	-	R88D-KN15F-ML2		
			19.1 N•m	2 kW	R88M-K2K010(F/C)-□	-	-	R88D-KN30F-ML2		
			28.7 N•m	3 kW	R88M-K3K010(F/C)-□	-	-	R88D-KN50F-ML2		



**Servo Motor/Servo Drive Combination**

**Analog/Pulse Output Servo Drives with Servo Motors**

Appearance	Rotary Servo Motor					Servo Drive with Analog/Pulse Output models		
	Voltage	Speed	Rated torque	Capacity	Model	120 V	230 V	460 V
	120 V	3000 rpm	0.16 N•m	50 W	R88M-K05030(H/T)-□	R88D-KTA5L	-	-
			0.32 N•m	100 W	R88M-K10030(L/S)-□	R88D-KT01L	-	-
			0.64 N•m	200 W	R88M-K20030(L/S)-□	R88D-KT02L	-	-
			1.3 N•m	400 W	R88M-K40030(L/S)-□	R88D-KT04L	-	-
	230 V	3000 rpm	0.16 N•m	50 W	R88M-K05030(H/T)-□	-	R88D-KT01H	-
			0.32 N•m	100 W	R88M-K10030(H/T)-□	-	R88D-KT01H	-
			0.64 N•m	200 W	R88M-K20030(H/T)-□	-	R88D-KT02H	-
			1.3 N•m	400 W	R88M-K40030(H/T)-□	-	R88D-KT04H	-
			2.4 N•m	750 W	R88M-K75030(H/T)-□	-	R88D-KT08H	-
			3.18 N•m	1 kW	R88M-K1K030(H/T)-□	-	R88D-KT15H	-
			4.77 N•m	1.5 kW	R88M-K1K530(H/T)-□	-	R88D-KT15H	-
			6.37 N•m	2 kW	R88M-K2K030(H/T)-□	-	R88D-KT20H	-
	400 V	3000 rpm	9.55 N•m	3 kW	R88M-K3K030(H/T)-□	-	R88D-KT30H	-
			12.7 N•m	4 kW	R88M-K4K030(H/T)-□	-	R88D-KT50H	-
			15.9 N•m	5 kW	R88M-K5K030(H/T)-□	-	R88D-KT50H	-
			2.39 N•m	750 W	R88M-K75030(F/C)-□	-	-	R88D-KT10F
			3.18 N•m	1 kW	R88M-K1K030(F/C)-□	-	-	R88D-KT15F
			4.77 N•m	1.5 kW	R88M-K1K530(F/C)-□	-	-	R88D-KT15F
			6.37 N•m	2 kW	R88M-K2K030(F/C)-□	-	-	R88D-KT20F
			9.55 N•m	3 kW	R88M-K3K030(F/C)-□	-	-	R88D-KT30F
	230 V	2000 rpm	12.7 N•m	4 kW	R88M-K4K030(F/C)-□	-	-	R88D-KT50F
			15.9 N•m	5 kW	R88M-K5K030(F/C)-□	-	-	R88D-KT50F
			4.77 N•m	1 kW	R88M-K1K020(H/T)-□	-	R88D-KT15H	-
			7.16 N•m	1.5 kW	R88M-K1K520(H/T)-□	-	R88D-KT15H	-
			9.55 N•m	2 kW	R88M-K2K020(H/T)-□	-	R88D-KT20H	-
			14.3 N•m	3 kW	R88M-K3K020(H/T)-□	-	R88D-KT30H	-
			19.1 N•m	4 kW	R88M-K4K020(H/T)-□	-	R88D-KT50H	-
			23.9 N•m	5 kW	R88M-K5K020(H/T)-□	-	R88D-KT50H	-
400 V	2000 rpm	1.91 N•m	400 W	R88M-K40020(F/C)-□	-	-	R88D-KT06F	
		2.86 N•m	600 W	R88M-K60020(F/C)-□	-	-	R88D-KT06F	
		4.77 N•m	1 kW	R88M-K1K020(F/C)-□	-	-	R88D-KT10F	
		7.16 N•m	1.5 kW	R88M-K1K520(F/C)-□	-	-	R88D-KT15F	
		9.55 N•m	2 kW	R88M-K2K020(F/C)-□	-	-	R88D-KT20F	
		14.3 N•m	3 kW	R88M-K3K020(F/C)-□	-	-	R88D-KT30F	
		19.1 N•m	4 kW	R88M-K4K020(F/C)-□	-	-	R88D-KT50F	
		23.9 N•m	5 kW	R88M-K5K020(F/C)-□	-	-	R88D-KT50F	
	230 V	1000 rpm	8.59 N•m	900 W	R88M-K90010(H/T)-□	-	R88D-KT15H	-
			19.1 N•m	2 kW	R88M-K2K010(H/T)-□	-	R88D-KT30F	-
			28.7 N•m	3 kW	R88M-K3K010(H/T)-□	-	R88D-KT50F	-
	400 V	1000 rpm	8.59 N•m	900 W	R88M-K90010(F/C)-□	-	-	R88D-KT15F
			19.1 N•m	2 kW	R88M-K2K010(F/C)-□	-	-	R88D-KT30F
			28.7 N•m	3 kW	R88M-K3K010(F/C)-□	-	-	R88D-KT50F

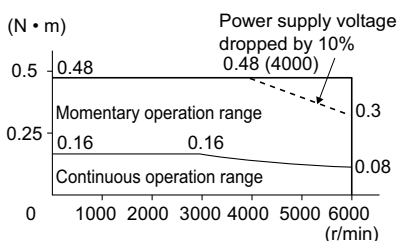
Servo Motor Specifications

Servo motors 3000 r/min, single-phase, 120 V

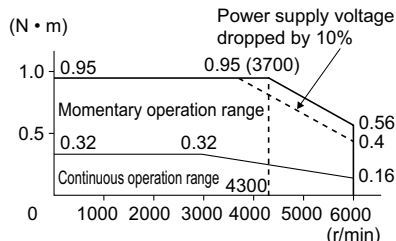
Voltage		Single-phase, 120 V				
Applicable servo motor R88M-K□	20-bit incremental encoder	05030H-□	10030L-□	20030L-□	40030L-□	
	17-bit absolute encoder	05030T-□	10030S-□	20030S-□	40030S-□	
Rated output	W	50	100	200	400	
Rated torque	N•m	0.16	0.32	0.64	1.3	
Instantaneous peak torque	N•m	0.48	0.95	1.91	3.8	
Rated current	A (rms)	1.1	1.6	2.5	4.6	
Instantaneous max. current	A (rms)	4.7	6.9	10.6	19.5	
Rated speed	r/min	3,000				
Max. speed	r/min	6,000				
Torque constant	N•m/ A (rms)	0.11±10%	0.14±10%	0.20±10%	0.21±10%	
Rotor moment of inertia (JM)	kg•m <sup>2</sup> ×10 <sup>-4</sup> (without brake)	0.025	0.051	0.14	0.26	
	kg•m <sup>2</sup> ×10 <sup>-4</sup> (with brake)	0.027	0.054	0.16	0.28	
Allowable load moment of inertia (JL)	Multiple of (JM)	30 times the rotor inertia max.				
Rated power rate	kW/s (without brake)	10.1	19.8	28.9	62.3	
	kW/s (with brake)	9.4	18.7	25.3	57.8	
Allowable radial load	N	68	68	245	245	
Allowable thrust load	N	58	58	98	98	
Approx. weight	kg (without brake)	0.31	0.45	0.78	1.2	
	kg (with brake)	0.51	0.65	1.2	1.6	
Brake specifications	Rated voltage	24 VDC±10%				
	Holding brake moment of inertia (J)	kg•m <sup>2</sup> ×10 <sup>-4</sup>	0.0002	0.0002	0.0018	0.0018
	Power consumption (at 20°C)	W	7	7	9	9
	Current consumption (at 20°C)	A	0.3	0.3	0.36	0.36
	Static friction torque	N•m (minimum)	0.29	0.29	1.27	1.27
	Rise time for holding torque	ms (max.)	35	35	50	50
	Release time	ms (max.)	20	20	15	20
Basic specifications	Time rating	Continuous				
	Insulation class	Type B				
	Ambient operating/storage temperature	0 to +40°C/-20 to +65°C				
	Ambient operating/storage humidity (RH)	20% to 85% (non-condensing)				
	Vibration class	V-15				
	Insulation resistance	20 MΩ min. at 500 VDC between the power terminals and FG terminal				
	Enclosure	Totally-enclosed, self-cooling, IP67 (excluding shaft opening and motor and encoder pins)				
	Vibration resistance	Vibration acceleration 49 m/s <sup>2</sup>				
	Mounting	Flange-mounted				

Torque-speed characteristics using 100 VAC

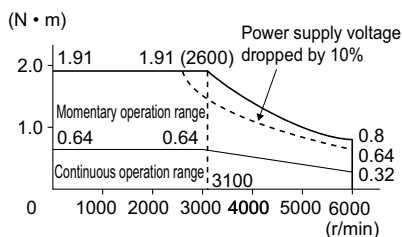
R88M-K05030(H/T)-□ (50 W)



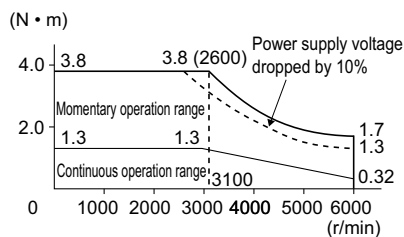
R88M-K10030(L/S)-□ (100 W)



R88M-K20030(L/S)-□ (200 W)



R88M-K40030(L/S)-□ (400 W)

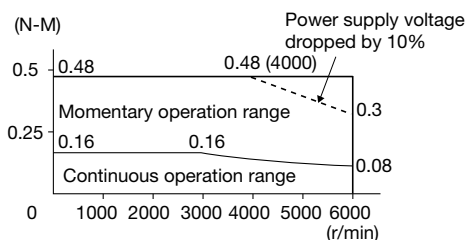


Servo motors 3000 r/min, single-phase 230 V

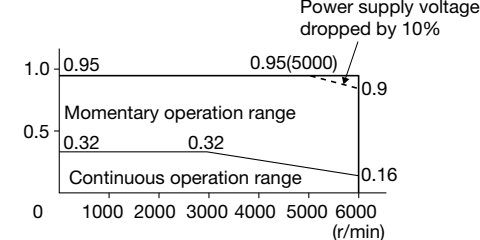
Voltage		230 V							
Servo motor model R88M-K□	20-bit incremental encoder	05030H-□	10030H-□	20030H-□	40030H-□	75030H-□	1K030H-□	1K530H-□	
	17-bit absolute encoder	05030T-□	10030T-□	20030T-□	40030T-□	75030T-□	1K030T-□	1K530T-□	
Rated output	W	50	100	200	400	750	1000	1500	
Rated torque	N•m	0.16	0.32	0.64	1.3	2.4	3.18	4.77	
Instantaneous peak torque	N•m	0.48	0.95	1.91	3.8	7.1	9.55	14.3	
Rated current	A (rms)	1.2	1.1	1.5	2.4	4.1	6.6	8.2	
Instantaneous max. current	A (rms)	5.1	4.7	6.5	10.2	17.4	28	35	
Rated speed	r/min	3,000							
Max. speed	r/min	6,000						5,000	
Torque constant	N•m/ A (rms)	0.11±10%	0.21±10%	0.31±10%	0.39±10%	0.42±10%	0.37	0.45	
Rotor moment of inertia (JM)	kg•m <sup>2</sup> ×10 <sup>-4</sup> (without brake)	0.025	0.051	0.14	0.26	0.87	2.03	2.84	
	kg•m <sup>2</sup> ×10 <sup>-4</sup> (with brake)	0.027	0.054	0.16	0.28	0.97	2.35	3.17	
Allowable load moment of inertia (JL)	Multiple of (JM)	30					20		
Rated power rate	kW/s (without brake)	10.1	19.9	29.0	62.4	65.6	49.8	80.1	
	kW/s (with brake)	9.4	18.8	25.4	58	58.8	43	71.8	
Allowable radial load	N	68			245		490		
Allowable thrust load	N	58			98		196		
Approx. mass	kg (without brake)	0.32	0.47	0.82	1.2	2.3	3.5	4.4	
	kg (with brake)	0.53	0.68	1.3	1.7	3.1	4.5	5.4	
Brake specifications	Rated voltage	24 VDC±10%							
	Holding brake moment of inertia (J)	kg•m <sup>2</sup> ×10 <sup>-4</sup>	0.002			0.0018		0.33	
	Power consumption (at 20°C)	W	7			9		17	
	Current consumption (at 20°C)	A	0.3			0.36		0.70±10%	
	Static friction torque	N•m (minimum)	0.29			1.27		2.5	
	Rise time for holding torque	ms (max.)	35			50			
	Release time	ms (max.)			20		15		
Basic specifications	Time rating	Continuous							
	Insulation class	Type B						Type F	
	Ambient operating/storage temperature	0 to +40°C/-20 to +65°C							
	Ambient operating/storage humidity (RH)	20% to 80% (non-condensing)						20% to 85% (non-condensing)	
	Vibration class	V-15							
	Insulation resistance	20 MΩ min. at 500 VDC between the power terminals and FG terminal							
	Enclosure	Totally-enclosed, self-cooling, IP67 (excluding shaft opening)							
	Vibration resistance	Vibration acceleration 49 m/s <sup>2</sup>							
	Mounting	Flange-mounted							

Torque-speed characteristics using 200 VAC

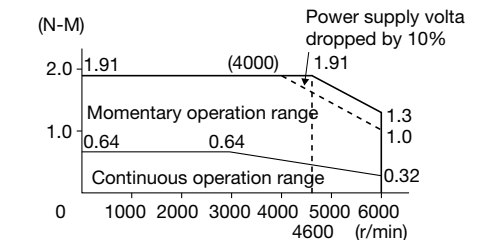
R88M-K05030H/T (50 W)



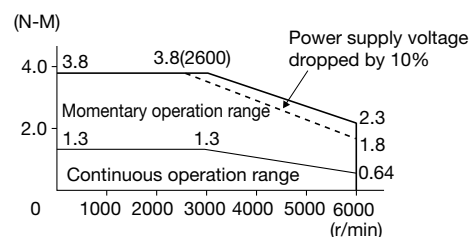
R88M-K10030H/T (100 W)



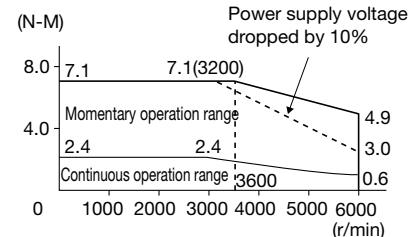
R88M-K20030H/T (200 W)



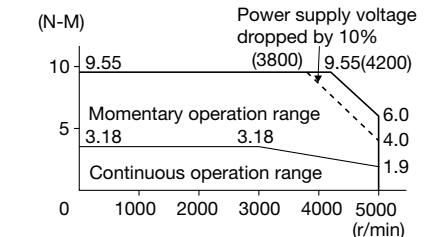
R88M-K40030H/T (400 W)



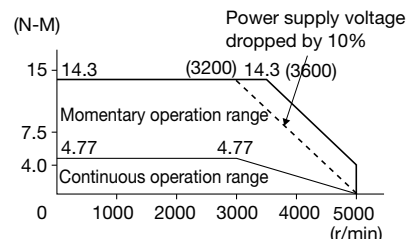
R88M-K75030H/T (750 W)



R88M-K1K030H/T (1 kW)



R88M-K1K530H/T (1.5 kW)



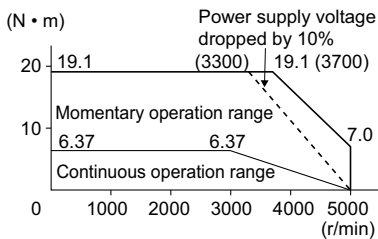
Servo Motor Specifications

Servo motors 3000 r/min, three-phase, 230 V

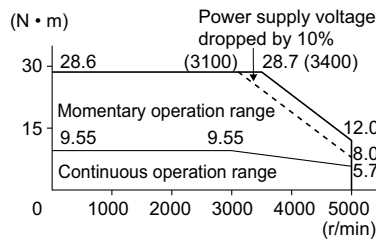
Voltage		Three-phase, 230 V				
Applicable servo motor R88M-□	20-bit incremental encoder	K2K030H-□	K3K030H-□	K4K030H-□	K5K030H-□	
	17-bit absolute encoder	K2K030T-□	K3K030T-□	K4K030T-□	K5K030T-□	
Rated output	kW	2	3	4	5	
Rated torque	N•m	6.37	9.55	12.7	15.9	
Instantaneous peak torque	N•m	19.1	28.6	38.2	47.7	
Rated current	A (rms)	11.3	18.1	19.6	24	
Instantaneous max. current	A (rms)	48	77	83	102	
Rated speed	r/min	3,000				
Max. speed	r/min	5,000	5,000	4,500	4,500	
Torque constant	N•m/ A (rms)	0.44	0.41	0.49	49	
Rotor moment of inertia (JM)	kg•m <sup>2</sup> ×10 <sup>-4</sup> (without brake)	3.68	6.5	12.9	17.4	
	kg•m <sup>2</sup> ×10 <sup>-4</sup> (with brake)	4.01	7.85	14.2	18.6	
Allowable load moment of inertia (JL)	Multiple of (JM)	30 times the rotor inertia max.				
Rated power rate	kW/s (without brake)	110	140	126	146	
	kW/s (with brake)	101	116	114	136	
Allowable radial load	N	490	490	784	784	
Allowable thrust load	N	196	196	343	343	
Approx. weight	kg (without brake)	5.3	8.3	11	14	
	kg (with brake)	6.3	9.4	12.6	16	
Brake specifications	Rated voltage	24 VDC±10%				
	Holding brake moment of inertia (J)	kg•m <sup>2</sup> ×10 <sup>-4</sup>	0.33	0.33	1.35	1.35
	Power consumption (at 20°C)	W	19	19	22	22
	Current consumption (at 20°C)	A	0.81±10%	0.81±10%	0.90±10%	0.90±10%
	Static friction torque	N•m (minimum)	7.8	11.8	16.1	16.1
	Rise time for holding torque	ms (max.)	50	80	110	110
	Release time	ms (max.)	15	15	50	50
Basic specifications	Time rating	Continuous				
	Insulation class	Type F				
	Ambient operating/storage temperature	0 to +40°C/-20 to +65°C				
	Ambient operating/storage humidity (RH)	20% to 85% (non-condensing)				
	Vibration class	V-15				
	Insulation resistance	20 MΩ min. at 500 VDC between the power terminals and FG terminal				
	Enclosure	Totally-enclosed, self-cooling, IP67 (excluding shaft opening and motor and encoder pins)				
	Vibration resistance	Vibration acceleration 49 m/s <sup>2</sup>				
	Mounting	Flange-mounted				

Torque-speed characteristics using 200 VAC

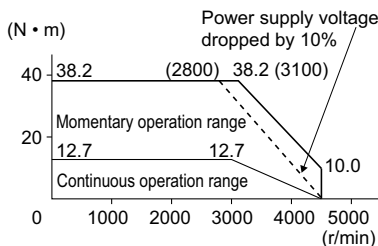
R88M-K2K030(H/T)-□ (2 kW)



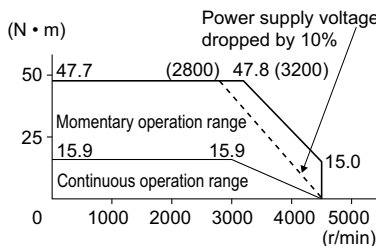
R88M-K3K030(H/T)-□ (3 kW)



R88M-K4K030(H/T)-□ (4 kW)



R88M-K5K030(H/T)-□ (5 kW)

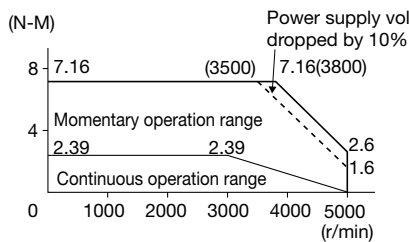


Servo motors 3000 r/min, 400 V

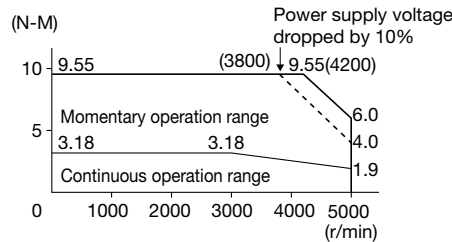
Voltage		400 V								
Servo motor model R88M-K□	20-bit incremental encoder	75030F-□	1K030F-□	1K530F-□	2K030F-□	3K030F-□	4K030F-□	5K030F-□		
	17-bit absolute encoder	75030C-□	1K030C-□	1K530C-□	2K030C-□	3K030C-□	4K030C-□	5K030C-□		
Rated output	W	750	1000	1500	2000	3000	4000	5000		
Rated torque	N•m	2.39	3.18	4.77	6.37	9.55	12.7	15.9		
Instantaneous peak torque	N•m	7.16	9.55	14.3	19.1	28.6	38.2	47.7		
Rated current	A (rms)	2.4	3.3	4.2	5.7	9.2	9.9	12		
Instantaneous max. current	A (rms)	10	14	18	24	39	42	51		
Rated speed	r/min	3,000								
Max. speed	r/min	5,000						4,500		
Torque constant	N•m/ A (rms)	0.78	0.75	0.89	0.87	0.81	0.98			
Rotor moment of inertia (JM)	kg•m <sup>2</sup> ×10 <sup>-4</sup> (without brake)	1.61	2.03	2.84	3.68	6.5	12.9	17.4		
	kg•m <sup>2</sup> ×10 <sup>-4</sup> (with brake)	1.93	2.35	3.17	4.01	7.85	14.2	18.6		
Allowable load moment of inertia (JL)	Multiple of (JM)	30								
Rated power rate	kW/s (without brake)	35.5	49.8	80.1	110	140	126	146		
	kW/s (with brake)	29.6	43	71.8	101	116	114	136		
Allowable radial load	N	490						784		
Allowable thrust load	N	196						343		
Approx. mass	kg (without brake)	3.1	3.5	4.4	5.3	8.3	11	14		
	kg (with brake)	4.1	4.5	5.4	6.3	9.4	12.6	16		
Brake specifications	Rated voltage	24 VDC±10%								
	Holding brake moment of inertia (J)	kg•m <sup>2</sup> ×10 <sup>-4</sup>	0.33						1.35	
	Power consumption (at 20°C)	W	17			19			22	
	Current consumption (at 20°C)	A	0.70±10%			0.81±10%			0.90±10%	
	Static friction torque	N•m (minimum)	2.5			7.8			11.8	
	Rise time for holding torque	ms (max.)	50						110	
Release time	ms (max.)	15						50		
Basic specifications	Time rating	Continuous								
	Insulation class	Type F								
	Ambient operating/storage temperature	0 to +40°C/-20 to +65°C								
	Ambient operating/storage humidity (RH)	20% to 85% (non-condensing)								
	Vibration class	V-15								
	Insulation resistance	20 MΩ min. at 500 VDC between the power terminals and FG terminal								
	Enclosure	Totally-enclosed, self-cooling, IP67 (excluding shaft opening)								
	Vibration resistance	Vibration acceleration 49 m/s <sup>2</sup>								
	Mounting	Flange-mounted								

Torque-speed characteristics using 400 VAC

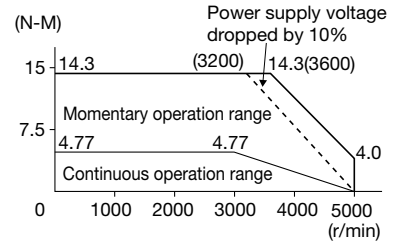
R88M-K75030F/C (750 W)



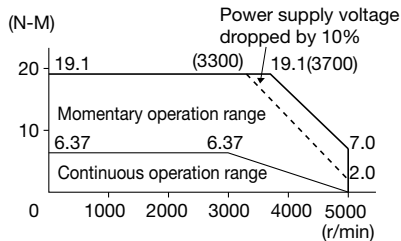
R88M-K1K030F/C (1 kW)



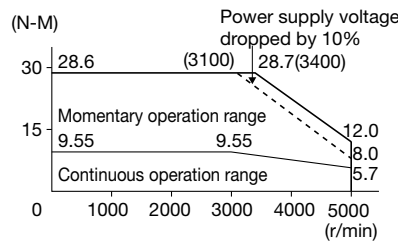
R88M-K1K530F/C (1.5 kW)



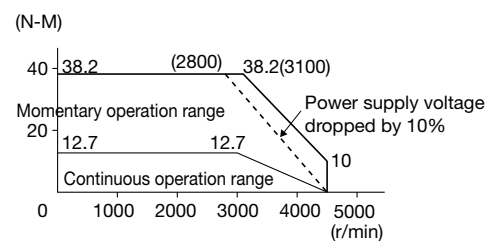
R88M-K2K030F/C (2 kW)



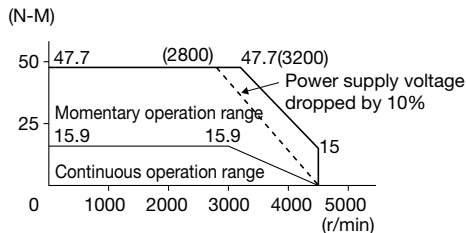
R88M-K3K030F/C (3 kW)



R88M-K4K030F/C (4 kW)



R88M-K5K030F/C (5 kW)



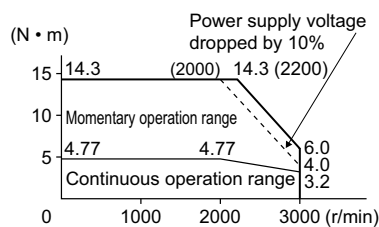
Servo Motor Specifications

Servo motors 2000 r/min, 230 V

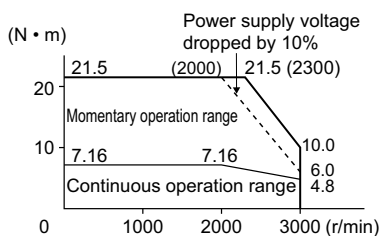
Voltage		230 V						
Applicable servo motor R88M-□	20-bit incremental encoder	K1K020H-□	K1K520H-□	K2K020H-□	K3K020H-□	K4K020H-□	K5K020H-□	
	17-bit absolute encoder	K1K020T-□	K1K520T-□	K2K020T-□	K3K020T-□	K4K020T-□	K5K020T-□	
Rated output	kW	1	1.5	2	3	4	5	
Rated torque	N•m	4.77	7.16	9.55	14.3	19.1	23.9	
Instantaneous peak torque	N•m	14.3	21.5	28.6	43	57.3	71.6	
Rated current	A (rms)	5.7	9.4	11.5	17.4	21	25.9	
Instantaneous max. current	A (rms)	24	40	49	74	89	110	
Rated speed	r/min	2000						
Max. speed	r/min	3000						
Torque constant	N•m/ A (rms)	0.63	0.58	0.64	0.59	0.7	0.7	
Rotor moment of inertia (JM)	kg•m <sup>2</sup> ×10 <sup>-4</sup> (without brake)	4.6	6.7	8.72	12.9	37.6	48	
	kg•m <sup>2</sup> ×10 <sup>-4</sup> (with brake)	5.9	7.99	10	14.2	38.6	48.8	
Allowable load moment of inertia (JL)	Multiple of (JM)	10 times the rotor inertia max.						
Rated power rate	kW/s (without brake)	49.5	76.5	105	159	97.1	119	
	kW/s (with brake)	38.6	64.2	91.2	144	94.5	117	
Allowable radial load	N	490	490	490	784	784	784	
Allowable thrust load	N	196	196	196	343	343	343	
Approx. weight	kg (without brake)	5.2	6.7	8	11	15.5	18.6	
	kg (with brake)	6.7	8.2	9.5	12.6	18.7	21.8	
Brake specifications	Rated voltage	24 VDC±10%						
	Holding brake moment of inertia (J)	kg•m <sup>2</sup> ×10 <sup>-4</sup>	1.35	1.35	1.35	1.35	4.7	4.7
	Power consumption (at 20°C)	W	14	19	19	22	31	31
	Current consumption (at 20°C)	A	0.59±10%	0.79±10%	0.79±10%	0.90±10%	1.3±10%	1.3±10%
	Static friction torque	N•m (minimum)	4.9	13.7	13.7	16.2	24.5	24.5
	Rise time for holding torque	ms (max.)	80	100	100	110	80	80
	Release time	ms (max.)	70	50	50	50	25	25
Basic specifications	Time rating	Continuous						
	Insulation class	Type F						
	Ambient operating/storage temperature	0 to +40 °C/ -20 to 85°C						
	Ambient operating/storage humidity (RH)	20% to 85% (non-condensing)						
	Vibration class	V-15						
	Insulation resistance	20 MΩ min. at 500 VDC between the power terminals and FG terminal						
	Enclosure	Totally-enclosed, self-cooling, IP67 (excluding shaft opening and motor and encoder pins)						
	Vibration resistance	Vibration acceleration 49 m/s <sup>2</sup>						
	Mounting	Flange-mounted						

Torque-speed characteristics using 200 VAC

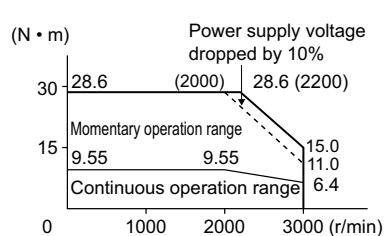
R88M-K1K020(H/T)-□ (1 kW)



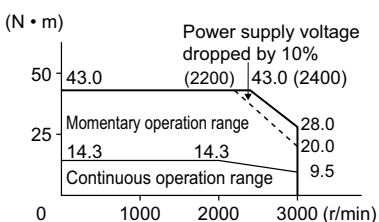
R88M-K1K520(H/T)-□ (1.5 kW)



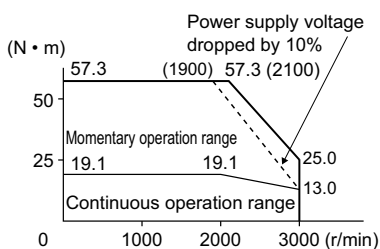
R88M-K2K020(H/T)-□ (2 kW)



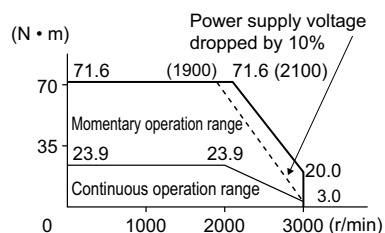
R88M-K3K020(H/T)-□ (3 kW)



R88M-K4K020(H/T)-□ (4 kW)



R88M-K5K020(H/T)-□ (5 kW)

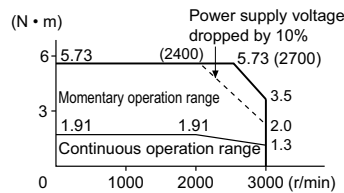


Servo motors 2000 r/min, 400 V

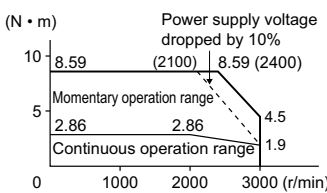
Voltage		400 V								
Applicable servo motor R88M-□	20-bit incremental encoder	40020F-□	60020F-□	K1K020F-□	K1K520F-□	K2K020F-□	K3K020F-□	K4K020F-□	K5K020F-□	
	17-bit absolute encoder	40020C-□	60020C-□	K1K020C-□	K1K520C-□	K2K020C-□	K3K020C-□	K4K020C-□	K5K020C-□	
Rated output	kW	0.4	0.6	1	1.5	2	3	4	5	
Rated torque	N•m	1.91	2.86	4.77	7.16	9.55	14.3	19.1	23.9	
Instantaneous peak torque	N•m	5.73	8.59	14.3	21.5	28.7	43	57.3	71.6	
Rated current	A (rms)	1.2	1.5	2.8	4.7	5.9	8.7	10.6	13	
Instantaneous max. current	A (rms)	4.9	6.5	12	20	25	37	45	55	
Rated speed	r/min	2000								
Max. speed	r/min	3000								
Torque constant	N•m / A (rms)	1.27	1.38	1.27	1.16	1.27	1.18	1.4	1.46	
Rotor moment of inertia (JM)	kg•m <sup>2</sup> ×10 <sup>-4</sup> (without brake)	1.61	2.03	4.6	6.7	8.72	12.9	37.6	48	
	kg•m <sup>2</sup> ×10 <sup>-4</sup> (with brake)	1.9	2.35	5.9	7.99	10	14.2	38.6	48.8	
Allowable load moment of inertia (JL)	Multiple of (JM)	10 times the rotor inertia max.								
Rated power rate	kW/s (without brake)	22.7	40.3	49.5	76.5	105	159	97.1	119	
	kW/s (with brake)	19.2	34.8	38.6	64.2	91.2	144	94.5	117	
Allowable radial load	N	490	490	490	490	490	784	784	784	
Allowable thrust load	N	196	196	196	196	196	343	343	343	
Approx. weight	kg (without brake)	3.1	3.5	5.2	6.7	8	11	15.5	18.6	
	kg (with brake)	4.1	4.5	6.7	8.2	9.5	12.6	18.7	21.8	
Brake specifications	Rated voltage	24 VDC±10%								
	Holding brake moment of inertia (J)	kg•m <sup>2</sup> ×10 <sup>-4</sup>	1.35	1.35	1.35	1.35	1.35	1.35	4.7	4.7
	Power consumption (at 20°C)	W	17	17	14	19	19	22	31	31
	Current consumption (at 20°C)	A	0.70±10%	0.70±10%	0.59±10%	0.79±10%	0.79±10%	0.90±10%	1.3±10%	1.3±10%
	Static friction torque	N•m (minimum)	2.5	2.5	4.9	13.7	13.7	16.2	24.5	24.5
	Rise time for holding torque	ms (max.)	50	50	80	100	100	110	80	80
Release time	ms (max.)	15	15	70	50	50	50	25	25	
Basic specifications	Time rating	Continuous								
	Insulation class	Type F								
	Ambient operating/storage temperature	0 to +40 °C/ -20 to 85°C								
	Ambient operating/storage humidity (RH)	20% to 85% (non-condensing)								
	Vibration class	V-15								
	Insulation resistance	20 MΩ min. at 500 VDC between the power terminals and FG terminal								
	Enclosure	Totally-enclosed, self-cooling, IP67 (excluding shaft opening and motor and encoder pins)								
	Vibration resistance	Vibration acceleration 49 m/s <sup>2</sup>								
Mounting	Flange-mounted									

Torque-speed characteristics using 400 VAC

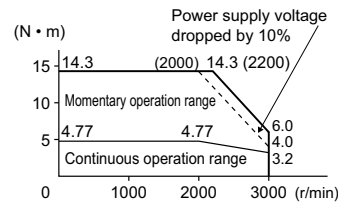
**R88M-K40020F/C**  
(400V, 400 W)



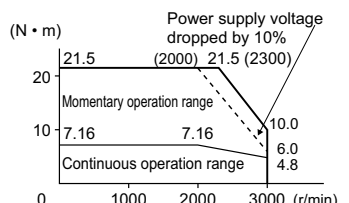
**R88M-K60020F/C**  
(400V, 600 W)



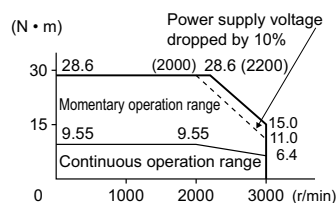
**R88M-K1K020F/C**  
(400V, 1 kW)



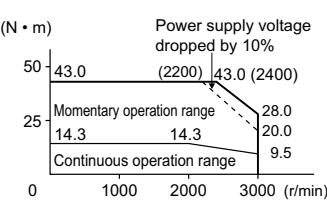
**R88M-K1K520F/C**  
(400V, 1.5 kW)



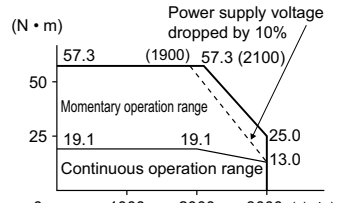
**R88M-K2K020F/C**  
(400V, 2 kW)



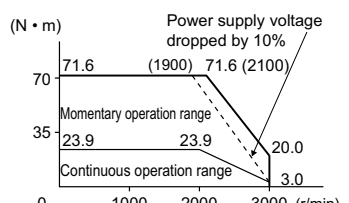
**R88M-K3K0F/C**  
(400V, 3 kW)



**R88M-K4K020F/C**  
(400V, 4 kW)



**R88M-K5K020F/C**  
(400V, 5 kW)



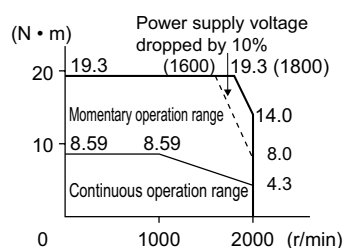
Servo Motor Specifications

Servo motors 1000 r/min, 230 V and 400 V

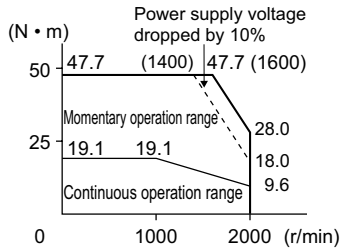
Voltage		230 V			400 V			
Applicable servo motor R88M-□	20-bit incremental encoder	K90010H-□	K2K010H-□	K3K010H-□	K90010F-□	K2K010F-□	K3K010F-□	
	17-bit absolute encoder	K90010T-□	K2K010T-□	K3K010T-□	K90010C-□	K2K010C-□	K3K010C-□	
Rated output	kW	0.9	2	3	0.9	2	3	
Rated torque	N•m	8.59	19.1	28.7	8.59	19.1	28.7	
Instantaneous peak torque	N•m	19.3	47.7	71.7	19.3	47.7	71.7	
Rated current	A (rms)	7.6	17	22.6	3.8	8.5	11.3	
Instantaneous max. current	A (rms)	24	60	80	12	30	40	
Rated speed	r/min	1000						
Max. speed	r/min	2000						
Torque constant	N•m/ A (rms)	0.86	0.88	0.96	1.72	1.76	1.92	
Rotor moment of inertia (JM)	kg•m <sup>2</sup> ×10 <sup>-4</sup> (without brake)	6.7	30.3	48.4	6.7	30.3	48.4	
	kg•m <sup>2</sup> ×10 <sup>-4</sup> (with brake)	7.99	31.4	49.2	7.99	31.4	49.2	
Allowable load moment of inertia (JL)	Multiple of (JM)	10 times the rotor inertia max.						
Rated power rate	kW/s (without brake)	110	120	170	110	120	170	
	kW/s (with brake)	92.4	116	167	92.4	116	167	
Allowable radial load	N	686	1176	1470	686	1176	1470	
Allowable thrust load	N	196	490	490	196	490	490	
Approx. weight	kg (without brake)	6.7	14	20	6.7	14	20	
	kg (with brake)	8.2	17.5	23.5	8.2	17.5	23.5	
Brake specifications	Rated voltage	24 VDC±10%						
	Holding brake moment of inertia (J)	kg•m <sup>2</sup> ×10 <sup>-4</sup>	1.35	4.7	4.7	1.35	4.7	4.7
	Power consumption (at 20°C)	W	19	31	34	19	31	34
	Current consumption (at 20°C)	A	0.79±10%	1.3±10%	1.4±10%	0.79±10%	1.3±10%	1.4±10%
	Static friction torque	N•m (minimum)	13.7	24.5	58.8	13.7	24.5	58.8
	Rise time for holding torque	ms (max.)	100	80	150	100	80	150
	Release time	ms (max.)	50	25	50	50	25	50
Basic specifications	Time rating	Continuous						
	Insulation class	Type F						
	Ambient operating/storage temperature	0 to +40 °C/ -20 to 85°C						
	Ambient operating/storage humidity (RH)	20% to 85% (non-condensing)						
	Vibration class	V-15						
	Insulation resistance	20 MΩ min. at 500 VDC between the power terminals and FG terminal						
	Enclosure	Totally-enclosed, self-cooling, IP67 (excluding shaft opening and motor and encoder pins)						
	Vibration resistance	Vibration acceleration 49 m/s <sup>2</sup>						
	Mounting	Flange-mounted						

Torque-speed characteristics using 200 VAC and 400 VAC

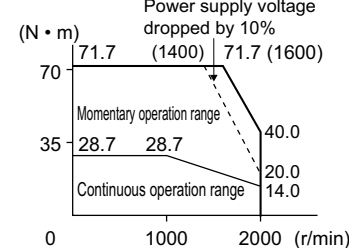
R88M-K90010(H/T/F/C)-□  
(900 W)



R88M-K2K010(H/T/F/C)-□  
(2 kW)



R88M-K3K010(H/T/F/C)-□  
(3 kW)





## Servo Drive Specifications

### Single-phase, 120 V

Servo drive type	R88D-K□		A5L□	01L□	02L□	04L□	
Applicable servo motor	R88M-K□		05030H□	10030L□	20030L□	40030L□	
			05030T□	10030S□	20030S□	40030S□	
Basic specifications	Max. Applicable motor capacity	W	50	100	200	300	
	Continuous output current	A (rms)	1.4	2.6	4.3	7.6	
	Input power	Main circuit	Single-phase 100 to 115 VAC (85 to 127 V) 50/60 Hz				
	Supply	Control circuit	Single-phase 100 to 115 VAC (85 to 127 V) 50/60 Hz				
	Control method	IGBT-driven PWM method, sinusoidal drive					
	Feedback	Serial encoder (incremental/absolute value)					
	Conditions	Usage/storage temperature	0 to +55 °C / -20 to 65 °C				
		Usage/storage humidity	90% RH or less (non-condensing)				
		Altitude	1000 m or less above sea level				
		Vibration/shock resistance (max.)	5.88 m/s <sup>2</sup> 10-60 Hz (Continuous operation at resonance point is not allowed) / 19.6 m/s <sup>2</sup>				
Configuration	Base mounted						
Approx. weight	Kg	0.8	0.8	1.0	1.6		

### Single-phase, 230 V

Servo drive type	R88D-K□		01H□	02H□	04H□	08H□	10H□	15H□	
Applicable servo motor	R88M-K□		05030(H/T)□	20030(H/T)□	40030(H/T)□	75030(H/T)□	1K020(H/T)□	1K030(H/T)□	
			10030(H/T)□	–	–	–	–	1K530(H/T)□	
			–	–	–	–	–	1K520(H/T)□	
			–	–	–	–	–	90010(H/T)□	
Basic specifications	Max. Applicable motor capacity	W	100	200	400	750	1000	1500	
	Continuous output current	A (rms)	1.2	1.6	2.6	4.1	5.9	9.4	
	Input power	Main circuit	Single-phase/3-phase, 200 to 240 VAC + 10 to -15% (50/60 Hz)						
	Supply	Control circuit	Single-phase, 200 to 240 VAC + 10 to -15% (50/60 Hz)						
	Control method	IGBT-driven PWM method, sinusoidal drive							
	Feedback	Serial encoder (incremental/absolute value)							
	Conditions	Usage/storage temperature	0 to +55 °C / -20 to 65 °C						
		Usage/storage humidity	90% RH or less (non-condensing)						
		Altitude	1000 m or less above sea level						
		Vibration/shock resistance (max.)	5.88 m/s <sup>2</sup> 10-60 Hz (Continuous operation at resonance point is not allowed) / 19.6 m/s <sup>2</sup>						
Configuration	Base mounted								
Approx. weight	Kg	0.8	0.8	1.1	1.6	1.8	1.8		

### Three-phase, 230 V

Servo drive type	R88D-K□		20H□	30H□	50H□
Applicable servo motor	R88M-K□		2K030H□	3K030H□	4K030H□ 5K030H□
			2K030T□	3K030T	4K030T□ 5K030T□
			2K020H	3K020H	4K020H□ 5K020H□
			2K020T	3K020T	4K020T□ 5K020T□
			–	2K010H	3K010H□
			–	2K010T	3K010T□ 4K510T□
Basic specifications	Max. Applicable motor capacity	kW	2	3	5
	Continuous output current	A (rms)	13.4	18.7	33.0
	Input power	Main circuit	3-phase 200 to 230 VAC (170 to 253 V) 50/60 Hz		
	Supply	Control circuit	Single-phase 200 to 230 VAC (170 to 253 V) 50/60 Hz		
	Control method	IGBT-driven PWM method, sinusoidal drive			
	Feedback	Serial encoder (incremental/absolute value)			
	Conditions	Usage/storage temperature	0 to +55 °C / -20 to 65 °C		
		Usage/storage humidity	90% RH or less (non-condensing)		
		Altitude	1000 m or less above sea level		
		Vibration/shock resistance (max.)	5.88 m/s <sup>2</sup> 10-60 Hz (Continuous operation at resonance point is not allowed) / 19.6 m/s <sup>2</sup>		
Configuration	Base mounted				
Approx. weight	Kg	2.7	4.8	4.8	

Servo Drive Specifications

Three-phase, 460 V

Servo drive type	R88D-K□	06F-□	10F-□	15F-□	20F-□	30F-□	50F-□		
Applicable servo motor	R88M-K□	40020(F/C)-□	75030(F/C)-□	1K030(F/C)-□	2K030(F/C)-□	3K030(F/C)-□	4K030(F/C)-□		
		60020(F/C)-□	1K020(F/C)-□	1K530(F/C)-□	2K020(F/C)-□	3K020(F/C)-□	5K030(F/C)-□		
		-	-	1K520(F/C)-□	-	2K010(F/C)-□	4K020(F/C)-□		
		-	-	90010(F/C)-□	-	-	5K020(F/C)-□		
		-	-	-	-	-	3K010(F/C)-□		
Basic specifications	Max. Applicable motor capacity	kW	0.6	1.0	1.5	2.0	3.0	5.0	
	Continuous output current	A (rms)	2.9	2.9	4.7	6.7	9.4	16.5	
	Input power	Main circuit	3-phase, 380 to 480 VAC + 10 to -15% (50/60Hz)						
	Supply	Control circuit	24 VDC ±15%						
	Control method		IGBT-driven PWM method, sinusoidal drive						
	Feedback		Serial encoder (incremental/absolute value)						
	Conditions	Usage/storage temperature		0 to +55 °C / -20 to 65 °C					
		Usage/storage humidity		90% RH or less (non-condensing)					
		Altitude		1000 m or less above sea level					
		Vibration/shock resistance		5.88 m/s <sup>2</sup> 10-60 Hz (Continuous operation at resonance point is not allowed) / 19.6 m/s <sup>2</sup>					
Configuration		Base mounted							
Approx. weight	Kg	1.9			2.7	4.7			

General specifications (for MECHATROLINK-II servo drives)

Control mode	Position control, velocity control, torque control, full-closed control.		
Performance	Frequency characteristics	2 kHz	
	Speed zero clamp	Preset velocity command can be clamped to zero by the speed zero clamp input.	
	Soft start time setting	0 to 10 s (acceleration, deceleration can be set separately)	
Command input	MECHATROLINK-II communication		
I/O signal	Sequence input signal	Multi-function input x 8 by parameter setting (forward/reverse drive prohibition, emergency stop, external latch, origin proximity, forward/reverse torque limit, general purpose monitor input).	
	Sequence output signal	It is possible to output three types of signal form incl.: brake release, servo ready, servo alarm, positioning complete, motor rotation speed detection, torque limit detection, zero speed detection, speed coincidence detection, warning, position command status, speed limit detection, alarm output, speed command status.	
Integrated functions	USB Communications	Interface	Personal computer/ Connector mini-USB
		Communications standard	Compliant with USB 2.0 standard
		Function	Parameter setting and status monitoring.
	MECHATROLINK-II communications	Communications protocol	MECHATROLINK-II
		Station address	41H to 51 FH (max. number of slaves: 30)
		Transmission speed	10 Mbps
		Transmission cycle	1, 2 & 4 ms
		Data length	17-bytes and 32-bytes
	Automatic load inertia detection	Automatic motor parameter setting. One parameter rigidity setting.	
	Dynamic brake (DB)	Built-in. Operates during main power OFF, servo alarm, servo OFF or overtravel.	
	Regenerative processing	Internal resistor included in models from 600 W to 5 kW. Regenerative resistor externally mounted (option).	
	Overtravel (OT) prevention function	DB stop, deceleration stop or coast to stop during P-OT, N-OT operation.	
	Encoder divider function	Optional division possible.	
	Protective functions	Overcurrent, overvoltage, undervoltage, overspeed, overload, encoder error, overheat...	
	Analog monitor functions for supervision	Analog monitor of motor speed, speed reference, torque reference, command following error, analog input... The monitoring signals to output and their scaling can be specified with parameters. Number of channels: 2 (Output voltage: ±10V DC).	
	Panel operator	Display functions	2-digit 7-segment LED display shows the drive status, alarm codes, parameters... MECHATROLINK-II communications status LED indicator (COM).
Switches		2 x rotary switches for setting the MECHATROLINK-II node address.	
CHARGE lamp	Lights when the main circuit power supply is turned ON.		
Safety terminal	Functions	Safety Torque OFF function to cut off the motor current and stop the motor. Output signal for failure monitoring function.	
	Conformed standards	EN ISO13849-1:2008 (PL- d, Performance Level d), IEC61800-5 -2:2007 (function STO, Safe Torque OFF), EN61508:2001 (Safety Integrity Level 2, SIL2), EN954-1:1996 (CAT3).	
External encoder feedback	Serial signal and line-driver A-B-Z encoder for full-close control.		

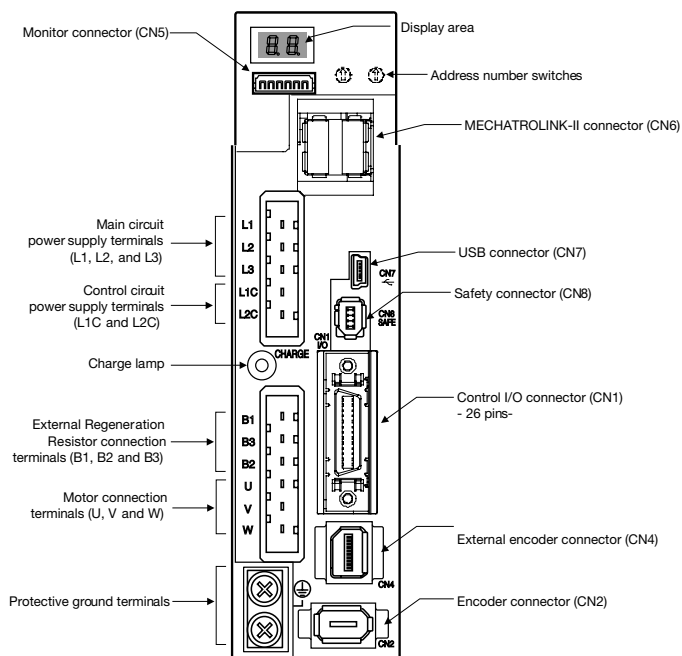
Servo Drive Specifications

General specifications (for analog/pulse servo drives)

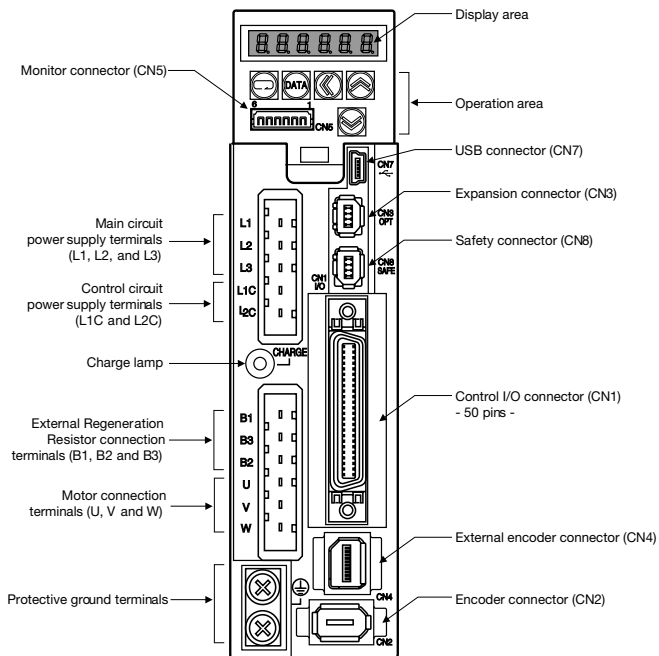
Control mode			7 modes selectable by parameter: (1) position control, (2) velocity control, (3) torque control, (4) position/velocity control, (5) position/torque control, (6) velocity/torque control and (7) full-closed control.	
Speed/ torque control	Performance	Frequency characteristics	2 kHz	
		Speed zero clamp	Preset velocity command can be clamped to zero by the speed zero clamp input.	
		Soft start time setting	0 to 10 s (acceleration, deceleration can be set separately). S-curve acceleration/deceleration is also available.	
	Input signal	Speed control	Speed reference voltage	6 VDC at rated speed: set at delivery (the scale and polarity can be set by parameters).
			Torque limit	3 VDC at rated torque (torque can be limited separately in positive/negative direction).
		Torque control	Preset speed control	Preset speed is selectable from 8 internal settings by digital inputs.
			Torque reference voltage	3 VDC at rated torque: set at delivery (the scale and polarity can be set by parameters).
Position control	Input signal	Command pulse	Input pulse type	Sign + pulse train, 90° phase displacement 2-phase pulse (A-phase+ B-phase) or CCW/CW pulse train.
			Input pulse frequency	4 Mpps max. (200 Kpps max. at open collector).
		Command pulse	Command pulse scaling (Electronic Gear)	Applicable scaling ratio: 1/1000 - 1000 Any value of 1-20 <sup>20</sup> can be set for numerator (encoder resolution) and denominator (command pulse resolution per motor revolution). The combination has to be within the range shown above.
			Speed limit	Speed limit can be set by parameter.
Full-closed control	Input signal	Command pulse	Input pulse type	Sign + pulse train, 90° phase displacement 2-phase pulse (A-phase+ B-phase) or CCW/CW pulse train.
			Input pulse frequency	4 Mpps max. (200 Kpps max. at open collector).
			Command pulse scaling (Electronic Gear)	Applicable scaling ratio: 1/1000 - 1000 Any value of 1-20 <sup>20</sup> can be set for numerator (encoder resolution) and denominator (command pulse resolution). The combination has to be within the range shown above.
	External encoder scaling		Applicable scaling ratio: 1/20 - 160 Any value of 1-20 <sup>20</sup> can be set for numerator (encoder resolution) and denominator (external encoder resolution per motor revolution). The combination has to be within the range shown above.	
I/O signal	Position signal output		A-phase, B.phase, Z-phase line driver output and Z-phase open-collector output.	
	Sequence input signal		Multi-function input x 10 by parameter setting (servo ON, control mode switching, forward/reverse drive prohibition, vibration filter switching, gain switching, electronic gear switching, error counter reset, pulse prohibition, alarm reset, internal speed selection, torque limit switching, zero speed, emergency stop, inertia ratio switching, velocity/torque command sign). Dedicated input x 1 (SEN: sensor ON, ABS data request).	
	Sequence output signal		It is possible to output four types of signal form incl.: brake release, servo ready, servo alarm, positioning complete, motor rotation speed detection, torque limit detection, zero speed detection, speed coincidence detection, warning, position command status, speed limit detection, speed command status.	
Integrated functions	USB Communications	Interface	Personal computer/ Connector mini-USB	
		Communications standard	Compliant with USB 2.0 standard	
		Function	Parameter setting and status monitoring	
	Automatic load inertia detection		Automatic motor parameter setting. One parameter rigidity setting.	
	Dynamic brake (DB)		Built-in. Operates during main power OFF, servo alarm, servo OFF or overtravel.	
	Regenerative processing		Internal resistor included in models from 600 W to 5 kW. Regenerative resistor externally mounted (option).	
	Overtravel (OT) prevention function		DB stop, deceleration stop or coast to stop during P-OT, N-OT operation	
	Encoder divider function		Optional division possible	
	Electronic gearing (Numerator/Denominator)		Up to 4 electronic gear numerators by combining with inputs.	
	Internal speed setting function		8 speeds may be set internally	
	Protective functions		Overcurrent, overvoltage, undervoltage, overspeed, overload, encoder error, overheat...	
	Analog monitor functions for supervision		Analog monitor of motor speed, speed reference, torque reference, command following error, analog input... The monitoring signals to output and their scaling can be specified by parameters. Number of channels: 2 (Output voltage: ±10V DC)	
	Panel operator	Display functions	6-digit 7-segment LED display shows the drive status, alarm codes, parameters...	
		Switches	Used to set/monitor parameters and drive condition (5 key switches).	
	CHARGE lamp		Lights when the main circuit power supply is turned ON.	
	Safety terminal	Functions	Safety torque OFF function to cut off the motor current and stop the motor. Output signal for failure monitoring function.	
		Conformed standards	EN ISO13849-1:2008 (PL- d, Performance Level d), IEC61800-5 -2:2007 (function STO, Safe Torque OFF), EN61508:2001 (Safety Integrity Level 2, SIL2), EN954-1:1996 (CAT3).	
External encoder feedback		Serial signal and line-driver A-B-Z encoder for full-close control		
Expansion connector		Serial bus for option board		

Servo Drive Part Names

MECHATROLINK-II servo drives



Analog/pulse servo drives

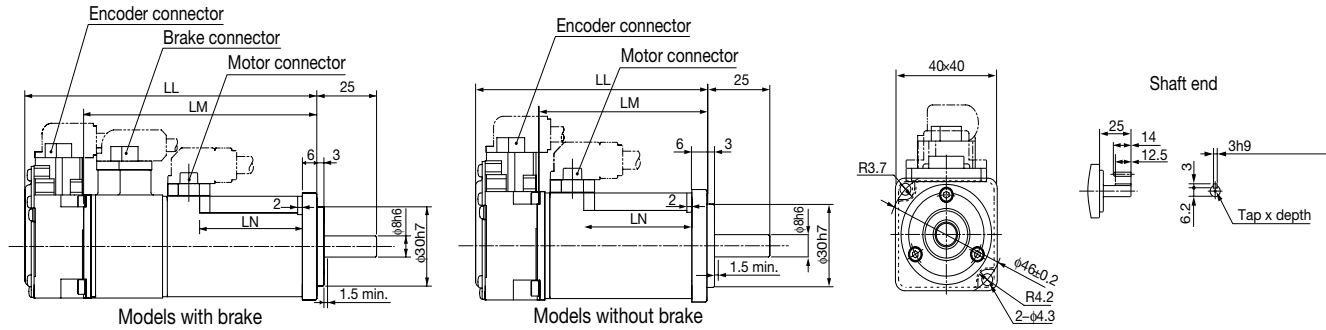


Note: The above pictures show 230 V servo drives models only. The 460 V servo drives have DC power input terminals for control circuit instead of L1C and L2C terminals.

Dimensions

SERVO MOTORS

Type 3000 r/min motors (120 V, 100 W and 230 V, 50 - 100 W)



Dimensions (mm)	Without brake		With brake		LN	Shaft End Dimensions		Approx. Weight (kg)	
	LL	LM	LL	LM		Tap x Depth	Without brake	With brake	
R88M-K05030(H/T)-□S2	72	48	102	78	23	M3 x 6L	0.32	0.53	
R88M-K10030(L/S/H/T)-□S2	92	68	122	98	43		0.47	0.68	

Type 3000 r/min motors (120 V, 200 - 400 W and 230 V, 200 - 750 W)



Dimensions (mm)	Without brake		With brake		LR	Flange surface						Shaft End Dimensions						Approx. Weight (kg)		
	LL	LM	LL	LM		LB	LC	LD	LE	LG	LZ	S	K	QK	H	B	T	Tap x Depth	Without brake	With brake
R88M-K20030(H/T)-□S2	79.5	56.5	116	93	30	50 <sup>h7</sup>	60	70	3	6.5	4.5	11 <sup>h6</sup>	20	18	8.5	4 <sup>h9</sup>	4	M4x8L	0.82	1.3
R88M-K20030(L/S)-□S2	79.5	56.5	116	93	30	50 <sup>h7</sup>	60	70	3	6.5	4.5	11 <sup>h6</sup>	20	18	8.5	4 <sup>h9</sup>	4	M4x8L	0.78	1.2
R88M-K40030(H/T)-□S2	99	76	135.5	112.5	30	50 <sup>h7</sup>	60	70	3	6.5	4.5	14 <sup>h6</sup>	25	22.5	11	5 <sup>h9</sup>	5	M5x10L	1.2	1.7
R88M-K40030(L/S)-□S2	99	76	135.5	112.5	30	50 <sup>h7</sup>	60	70	3	6.5	4.5	14 <sup>h6</sup>	25	22.5	11	5 <sup>h9</sup>	5	M5x10L	1.2	1.6
R88M-K75030(H/T)-□S2	112.2	86	148.2	122.2	35	70 <sup>h7</sup>	80	90	3	8	6	19 <sup>h6</sup>	25	22	15.5	6 <sup>h9</sup>	6	M5x10L	2.3	3.1

Type 3000 r/min motors (230 V, 1 - 5 kW)

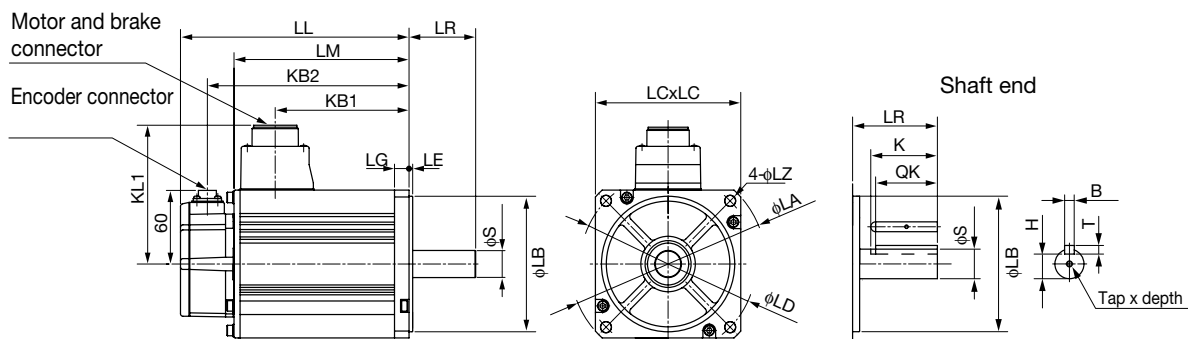


Model	Without brake					With brake					Flange surface						Shaft End Dimensions						Approx. Weight (kg)				
	LL	LM	KB1	KB2	KL1	LL	LM	KB1	KB2	KL1	LR	LA	LB	LC	LD	LE	LG	LZ	S	Tap x Depth	K	QK	H	B	T	Without brake	With brake
1K030(H/T)-□S2	141	97	66	119	101	168	124	66	146	101	55	135	95 <sup>h7</sup>	100	115	3	10	9	19 <sup>h6</sup>	M5 x 12L	45	42	15.5	6 <sup>h9</sup>	6	3.5	4.5
1K530(H/T)-□S2	159.5	115.5	84.5	137.5	101	186.5	142.5	84.5	164.5	101	55	135	95 <sup>h7</sup>	100	115	3	10	9	19 <sup>h6</sup>	M5 x 12L	45	42	15.5	6 <sup>h9</sup>	6	4.4	5.4
2K030(H/T)-□S2	178.5	134.5	103.5	156.5	101	205.5	161.5	103.5	183.5	101	55	135	95 <sup>h7</sup>	100	115	3	10	9	19 <sup>h6</sup>	M5 x 12L	45	42	15.5	6 <sup>h9</sup>	6	5.3	6.3
3K030(H/T)-□S2	190	146	112	168	113	215	171	112	193	113	55	162	110 <sup>h7</sup>	120	145	3	12	9	22 <sup>h6</sup>	M5 x 12L	45	41	18	8 <sup>h9</sup>	7	8.3	9.4
4K030(H/T)-□S2	208	164	127	186	118	233	189	127	211	118	65	145	110 <sup>h7</sup>	130	165	6	12	9	24 <sup>h6</sup>	M8 x 20L	55	51	20	8 <sup>h9</sup>	7	11.0	12.6
5K030(H/T)-□S2	243	199	162	221	118	268	224	162	246	118	65	145	110 <sup>h7</sup>	130	165	6	12	9	24 <sup>h6</sup>	M8 x 20L	55	51	20	8 <sup>h9</sup>	7	14.0	16.0

Dimensions

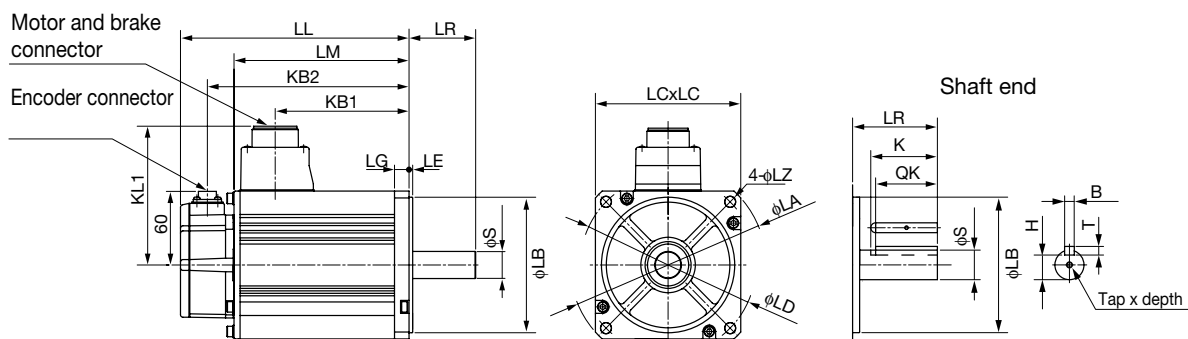
SERVO MOTORS

Type 3000 r/min motors (400 V, 750 W - 5 kW)



Model	Without brake					With brake					Flange surface							Shaft End Dimensions							Approx. Weight (kg)				
	LL	LM	KB1	KB2	KL1	LL	LM	KB1	KB2	KL1	LR	LA	LB	LC	LD	LE	LG	LZ	S	Tap x Depth	K	QK	H	B	T	Without brake	With brake		
R88M-K□																													
75030(F/C)-□S2	131.5	87.5	56.5	109.5	101	158.5	114.5	53.5	136.5	103	55	135	95 <sup>h7</sup>	100	115	3	10	9	19 <sup>h6</sup>	M5 x 12L	45	42	15.5	6 <sup>h9</sup>	6	3.1	4.1		
1K030(F/C)-□S2	141	97	66	119	101	168	124	66	146	101	55	135	95 <sup>h7</sup>	100	115	3	10	9	19 <sup>h6</sup>	M5 x 12L	45	42	15.5	6 <sup>h9</sup>	6	3.5	4.5		
1K530(F/C)-□S2	159.5	115.5	84.5	137.5	101	186.5	142.5	84.5	164.5	101	55	135	95 <sup>h7</sup>	100	115	3	10	9	19 <sup>h6</sup>	M5 x 12L	45	42	15.5	6 <sup>h9</sup>	6	4.4	5.4		
2K030(F/C)-□S2	178.5	134.5	103.5	156.5	101	205.5	161.5	103.5	183.5	101	55	135	95 <sup>h7</sup>	100	115	3	10	9	19 <sup>h6</sup>	M5 x 12L	45	42	15.5	6 <sup>h9</sup>	6	5.3	6.3		
3K030(F/C)-□S2	190	146	112	168	113	215	171	112	193	113	55	162	110 <sup>h7</sup>	120	145	3	12	9	22 <sup>h6</sup>	M5 x 12L	45	41	18	8 <sup>h9</sup>	7	8.3	9.4		
4K030(F/C)-□S2	208	164	127	186	118	233	189	127	211	118	65	145	110 <sup>h7</sup>	130	165	6	12	9	24 <sup>h6</sup>	M8 x 20L	55	51	20	8 <sup>h9</sup>	7	11.0	12.6		
5K030(F/C)-□S2	243	199	162	221	118	268	224	162	246	118	65	145	110 <sup>h7</sup>	130	165	6	12	9	24 <sup>h6</sup>	M8 x 20L	55	51	20	8 <sup>h9</sup>	7	14.0	16.0		

Type 2000 r/min motors



230 V, 1 kW - 5 kW

Model	Without brake					With brake					Flange surface							Shaft End Dimensions							Approx. Weight (kg)				
	LL	LM	KB1	KB2	KL1	LL	LM	KB1	KB2	KL1	LR	LA	LB	LC	LD	LE	LG	LZ	S	Tap x Depth	K	QK	H	B	T	Without brake	With brake		
R88M-K□																													
1K020(H/T)-□S2	138	94	60	116	116	163	119	60	141	116	55	145	110 <sup>h7</sup>	130	165	6	12	9	22 <sup>h6</sup>	M5 x 12L	45	41	18	8 <sup>h9</sup>	7	5.2	6.7		
1K520(H/T)-□S2	155.5	111.5	77.5	133.5	116	180.5	136.5	77.5	158.5	116	55	145	110 <sup>h7</sup>	130	165	6	12	9	22 <sup>h6</sup>	M5 x 12L	45	41	18	8 <sup>h9</sup>	7	6.7	8.2		
2K020(H/T)-□S2	173	129	95	151	116	198	154	95	176	116	55	145	110 <sup>h7</sup>	130	165	6	12	9	22 <sup>h6</sup>	M5 x 12L	45	41	18	8 <sup>h9</sup>	7	8.0	9.5		
3K020(H/T)-□S2	208	164	127	186	118	233	189	127	211	118	65	145	110 <sup>h7</sup>	130	165	6	12	9	24 <sup>h6</sup>	M8 x 20L	55	51	20	8 <sup>h9</sup>	7	11.0	12.6		
4K020(H/T)-□S2	177	133	96	155	140	202	158	96	180	140	70	233	114.3 <sup>h7</sup>	176	200	3.2	18	13.5	35 <sup>h6</sup>	M12 x 25L	55	50	30	10 <sup>h9</sup>	8	15.5	18.7		
5K020(H/T)-□S2	202	158	96	180	140	221	177	115	199	140	70	233	114.3 <sup>h7</sup>	176	200	3.2	18	13.5	35 <sup>h6</sup>	M12 x 25L	55	51	30	10 <sup>h9</sup>	8	18.6	21.8		

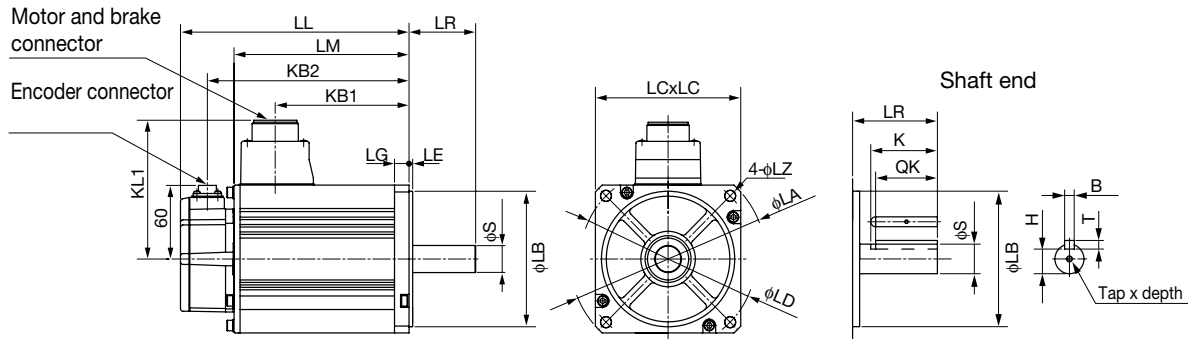
400 V, 400 W - 5 kW

Model	Without brake					With brake					Flange surface							Shaft End Dimensions							Approx. Weight (kg)				
	LL	LM	KB1	KB2	KL1	LL	LM	KB1	KB2	KL1	LR	LA	LB	LC	LD	LE	LG	LZ	S	Tap x Depth	K	QK	H	B	T	Without brake	With brake		
R88M-K□																													
40020(F/C)-□S2	131.5	87.5	56.5	109.5	101	158.5	114.5	53.5	136.5	103	55	135	95 <sup>h7</sup>	100	115	3	10	9	19 <sup>h6</sup>	M5 x 12L	45	42	15.5	6 <sup>h9</sup>	6	3.1	4.1		
60020(F/C)-□S2	141	97	66	119	101	168	124	63	146	103	55	135	95 <sup>h7</sup>	100	115	3	10	9	19 <sup>h6</sup>	M5 x 12L	45	42	15.5	6 <sup>h9</sup>	6	3.5	4.5		
1K020(F/C)-□S2	138	94	60	116	116	163	119	60	141	116	55	145	110 <sup>h7</sup>	130	165	6	12	9	22 <sup>h6</sup>	M5 x 12L	45	41	18	8 <sup>h9</sup>	7	5.2	6.7		
1K520(F/C)-□S2	155.5	111.5	77.5	133.5	116	180.5	136.5	77.5	158.5	116	55	145	110 <sup>h7</sup>	130	165	6	12	9	22 <sup>h6</sup>	M5 x 12L	45	41	18	8 <sup>h9</sup>	7	6.7	8.2		
2K020(F/C)-□S2	173	129	95	151	116	198	154	95	176	116	55	145	110 <sup>h7</sup>	130	165	6	12	9	22 <sup>h6</sup>	M5 x 12L	45	41	18	8 <sup>h9</sup>	7	8.0	9.5		
3K020(F/C)-□S2	208	164	127	186	118	233	189	127	211	118	65	145	110 <sup>h7</sup>	130	165	6	12	9	24 <sup>h6</sup>	M8 x 20L	55	51	20	8 <sup>h9</sup>	7	11.0	12.6		
4K020(F/C)-□S2	177	133	96	155	140	202	158	96	180	140	70	233	114.3 <sup>h7</sup>	176	200	3.2	18	13.5	35 <sup>h6</sup>	M12 x 25L	55	50	30	10 <sup>h9</sup>	8	15.5	18.7		
5K020(F/C)-□S2	202	158	96	180	140	221	177	115	199	140	70	233	114.3 <sup>h7</sup>	176	200	3.2	18	13.5	35 <sup>h6</sup>	M12 x 25L	55	51	30	10 <sup>h9</sup>	8	18.6	21.8		

Dimensions

SERVO MOTORS

Type 1000 r/min motors



230 V, 900 W - 3 kW

Model	Without brake					With brake					Flange surface								Shaft End Dimensions							Approx. Weight (kg)	
	LL	LM	KB1	KB2	KL1	LL	LM	KB1	KB2	KL1	LR	LA	LB	LC	LD	LE	LG	LZ	S	Tap x Depth	K	QK	H	B	T	Without brake	With brake
90010(H/T)-□S2	155.5	111.5	77.5	133.5	116	180.5	136.5	77.5	158.5	116	55	165	110 <sup>h7</sup>	130	145	6	12	9	22 <sup>h6</sup>	M5 x 12L	45	41	18	8 <sup>h9</sup>	7	6.7	8.2
2K010(H/T)-□S2	163.5	119.5	82.5	141.5	140	209.5	165.5	128.5	187.5	140	80	233	114.3 <sup>h7</sup>	176	200	3.2	18	13.5	35 <sup>h6</sup>	M12 x 25L	55	50	30	10 <sup>h9</sup>	8	14	20
3K010(H/T)-□S2	208	164	127	186	140	234.5	190.5	128.5	212.5	140	80	233	114.3 <sup>h7</sup>	176	200	3.2	18	13.5	35 <sup>h6</sup>	M12 x 25L	55	50	30	10 <sup>h9</sup>	8	17.5	23.5

400 V, 900 W - 3 kW

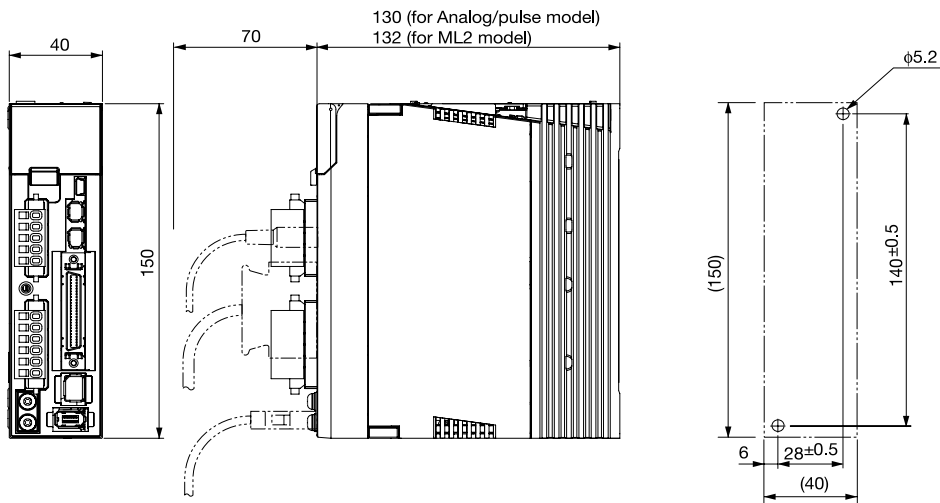
Model	Without brake					With brake					Flange surface								Shaft End Dimensions							Approx. Weight (kg)	
	LL	LM	KB1	KB2	KL1	LL	LM	KB1	KB2	KL1	LR	LA	LB	LC	LD	LE	LG	LZ	S	Tap x Depth	K	QK	H	B	T	Without brake	With brake
90010(F/C)-□S2	155.5	111.5	77.5	133.5	116	180.5	136.5	74.5	158.5	118	55	165	110 <sup>h7</sup>	130	145	6	12	9	22 <sup>h6</sup>	M5 x 10L	45	41	18	8 <sup>h9</sup>	7	6.7	8.2
2K010(F/C)-□S2	163.5	119.5	82.5	141.5	140	188.5	144.5	82.5	166.5	140	80	233	114.3 <sup>h7</sup>	176	200	3.2	18	13.5	35 <sup>h6</sup>	M12 x 25L	55	50	30	10 <sup>h9</sup>	8	14	17.5
3K010(F/C)-□S2	209.5	165.5	128.5	187.5	140	234.5	190.5	128.5	212.5	140	80	233	114.3 <sup>h7</sup>	176	200	3.2	18	13.5	35 <sup>h6</sup>	M12 x 25L	55	50	30	10 <sup>h9</sup>	8	20	23.5

Dimensions

SERVO DRIVES

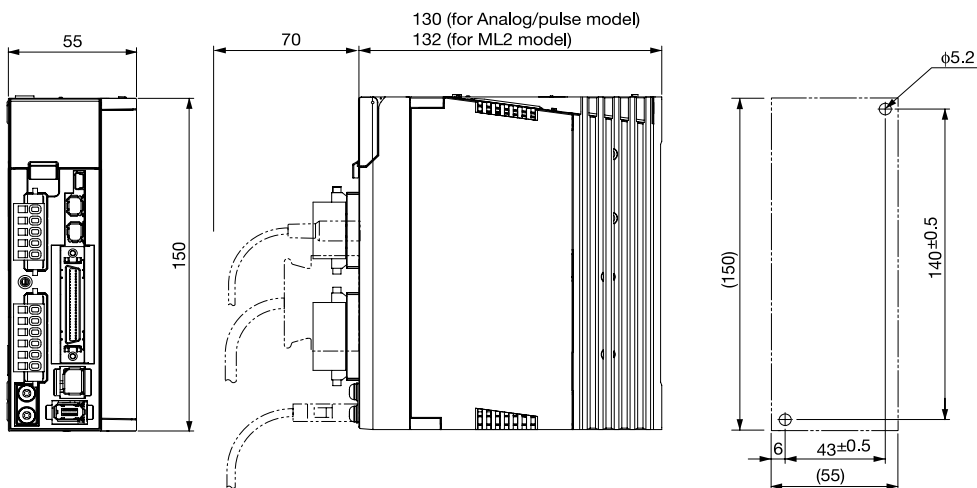
Single-phase 120 VAC: R88D-KNA5L-ML2/-KN01L-ML2/-KTA5L/-KT01L (50 to 100 W)

Single-phase/3-phase 230 VAC: R88D-KN01H-ML2/-KN02H-ML2/-KT01H/-KT02H (100 to 200 W)



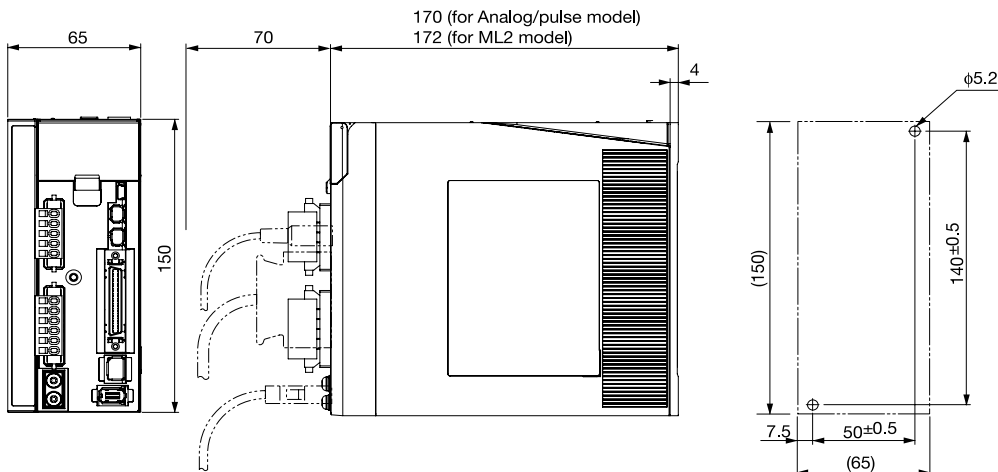
Single-phase/3-phase 120 VAC: R88D-KN02L-ML2/R88D-KT02L (200 W)

Single-phase/3-phase 230 VAC: R88D-KN04H-ML2/R88D-KT04H (400 W)



Single-phase/3-phase 120 VAC: R88D-KN04L-ML2/R88D-KT04L (400 W)

Single-phase/3-phase 230 VAC: R88D-KN08H-ML2/R88D-KT08H (750 W)

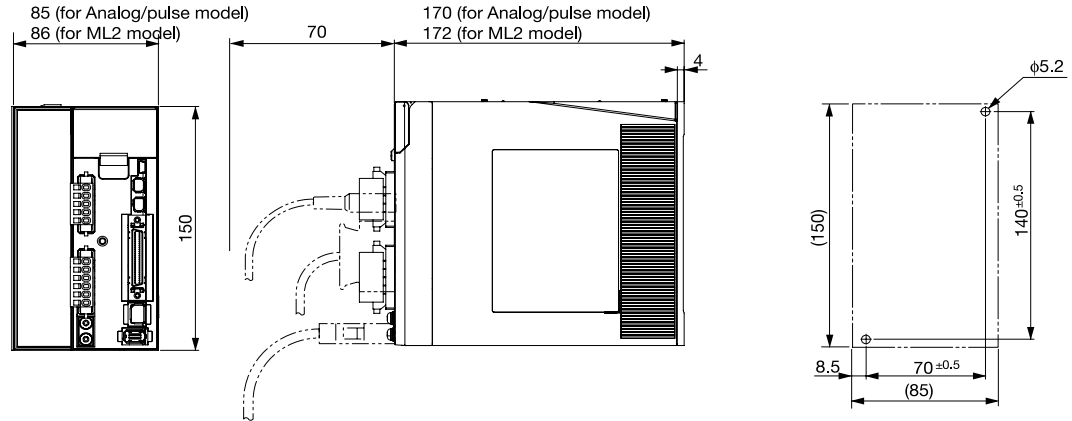




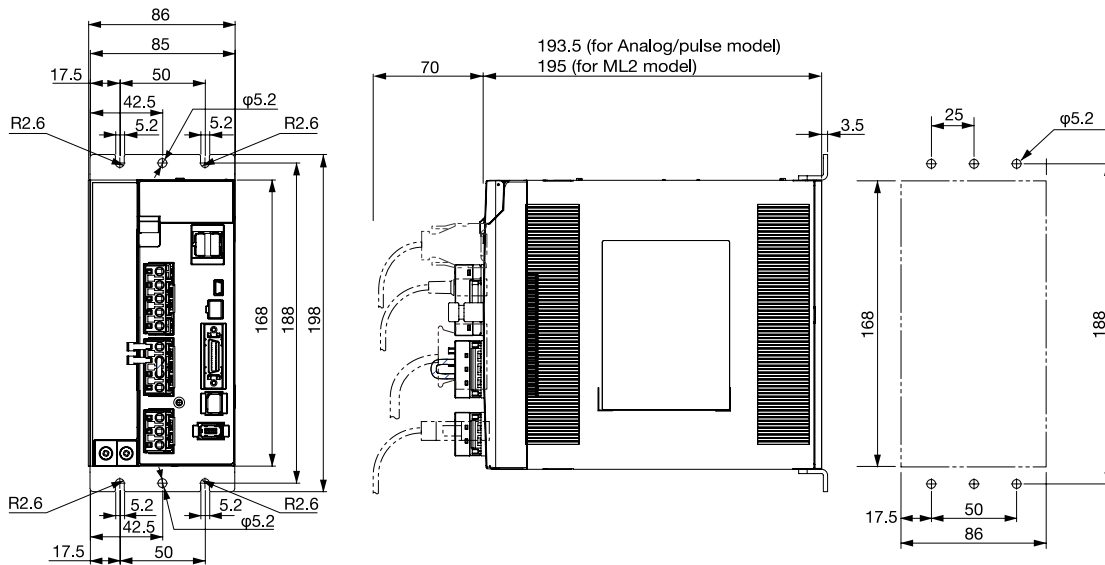
Dimensions

SERVO DRIVES

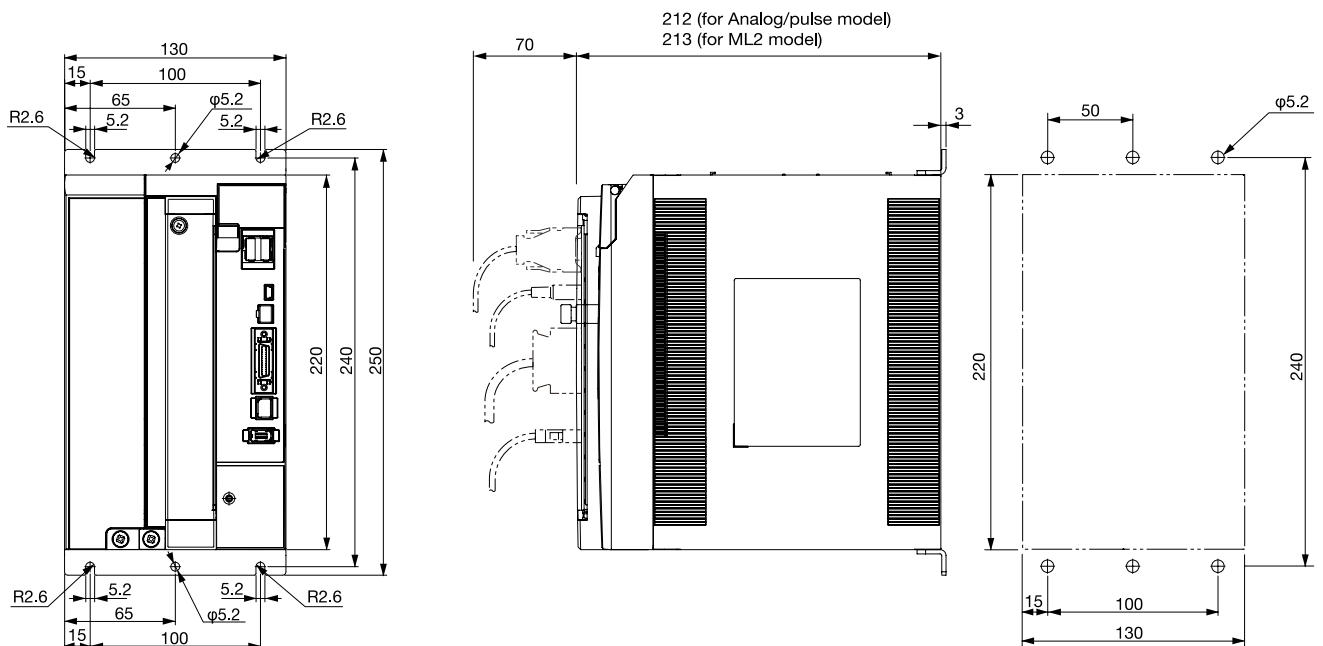
Single-phase/3-phase 230 VAC: R88D-KN10H-ML2/-KN15H-ML2/R88D-KT10H/-KT15H (900 W to 1.5 kW)



3-phase 230 VAC: R88D-KN20H-ML2/R88D-KT20H (2 kW)



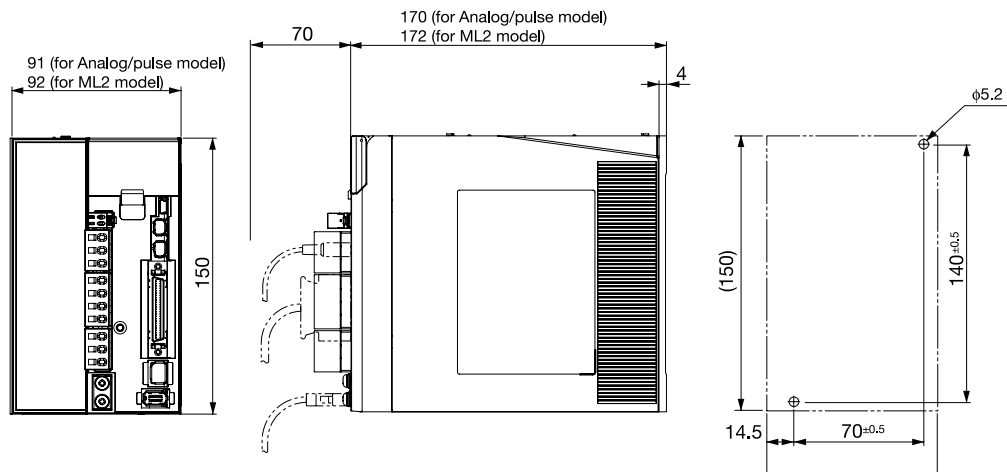
3-phase 230 VAC: R88D-KN30H-ML2/-KN50H-ML2/R88D-KT30H/-KT50H (3 to 5 kW)



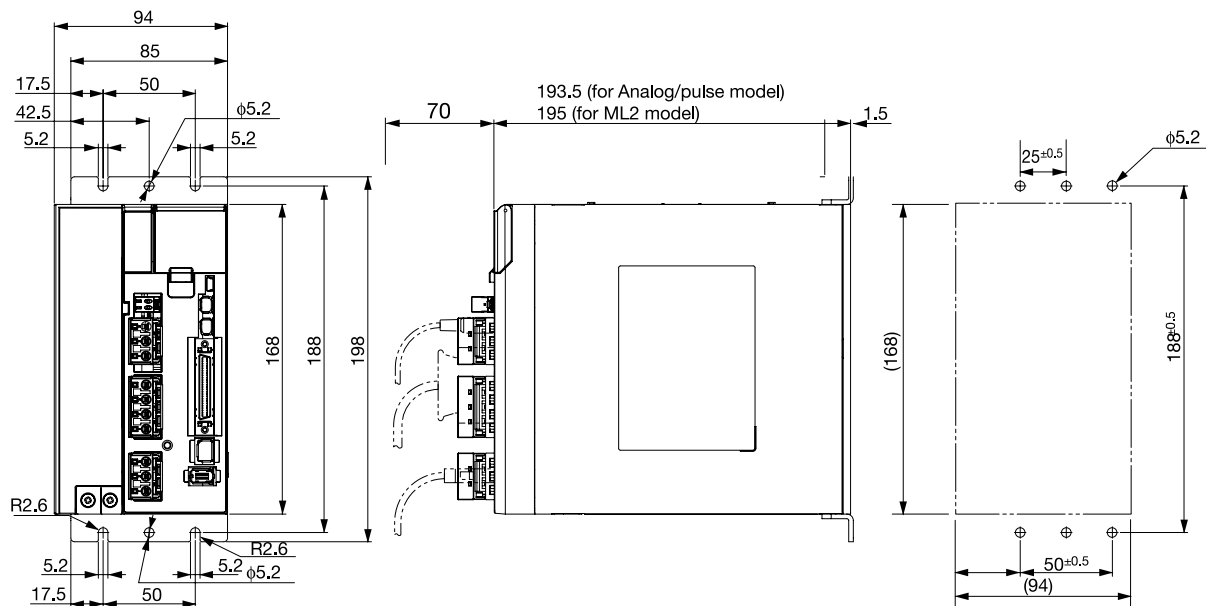
Dimensions

SERVO DRIVES

3-phase 460 VAC: R88D-KT06/10/15F, R88D-KN06/10/15F-ML2 (600 W - 1.5 kW)



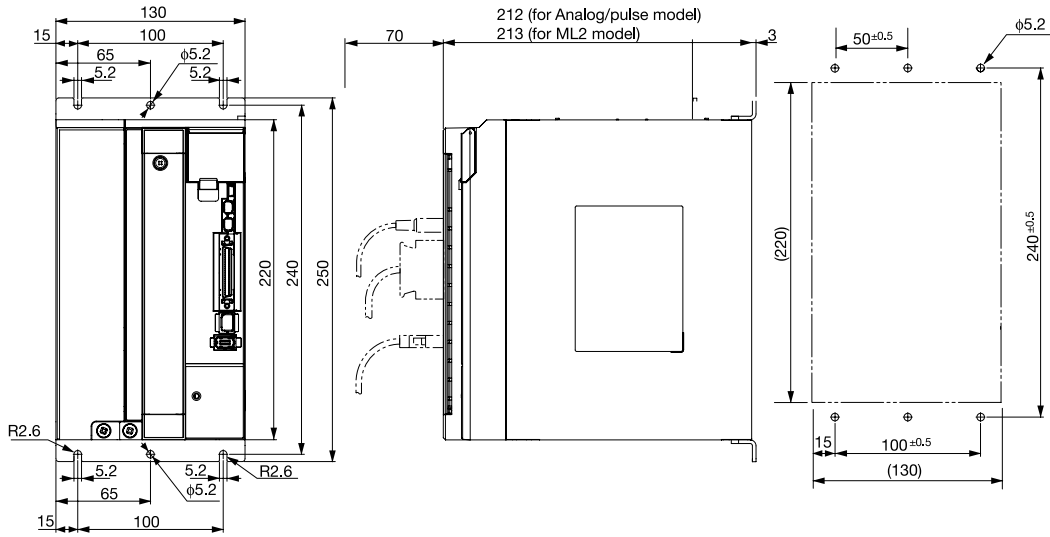
3-phase 460 VAC: R88D-KT20F, R88D-KN20F-ML2 (2 kW)



**Dimensions**

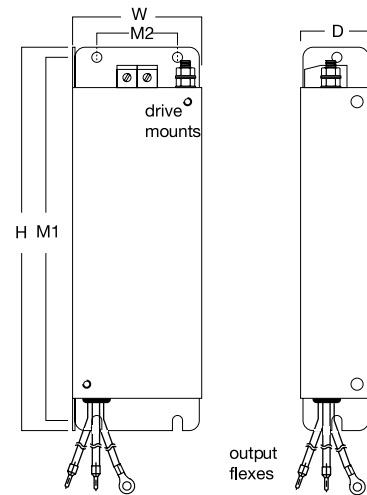
**SERVO DRIVES**

3-phase, 460 VAC: R88D-KT30/50F, R88D-KN30/50F-ML2 (3 - 5 kW)



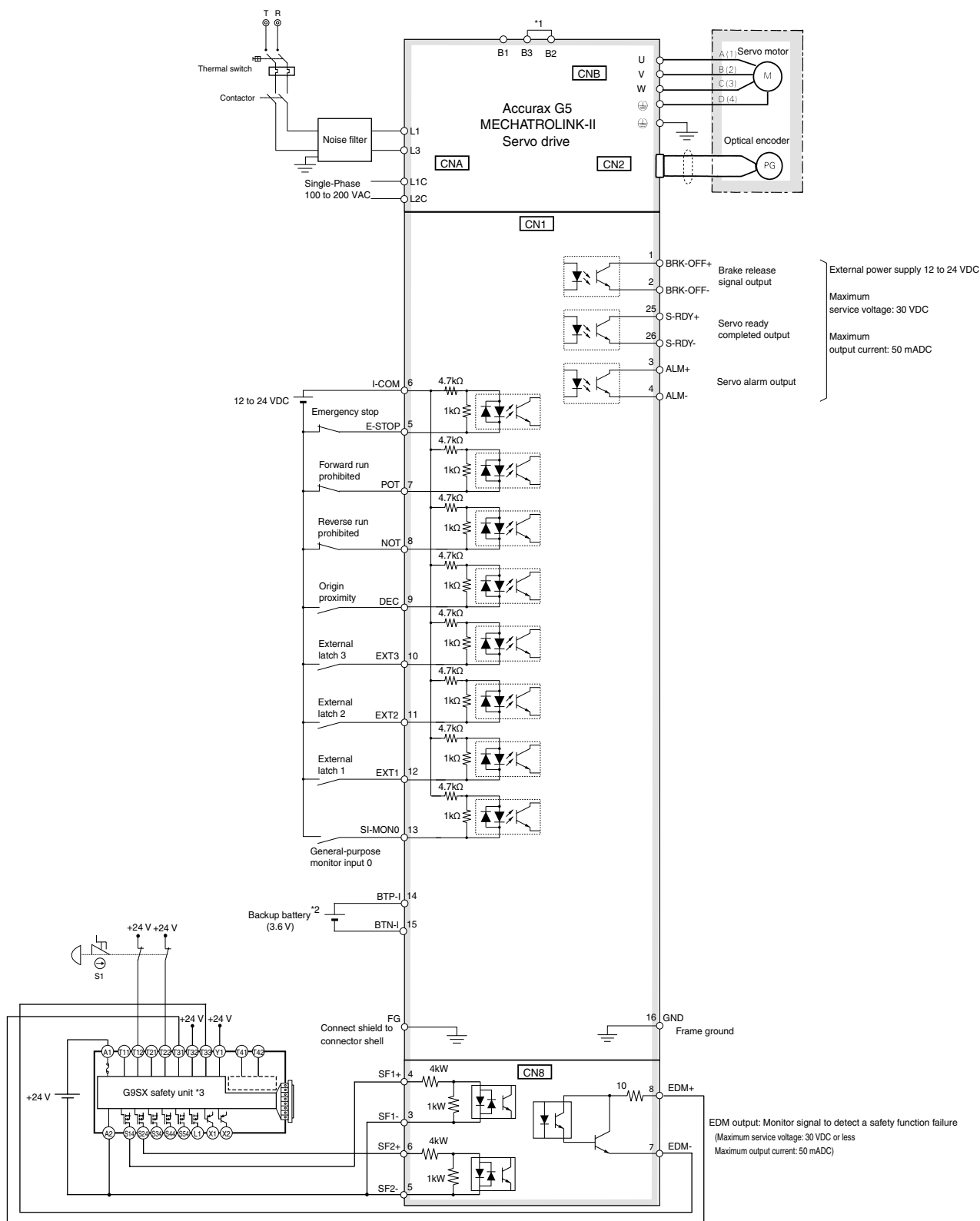
**Filters**

Filter model	External dimensions			Mounting dimensions	
	H	W	D	M1	M2
R88A-FIK102-RE	190	42	44	180	20
R88A-FIK104-RE	190	57	30	180	30
R88A-FIK107-RE	190	64	35	180	40
R88A-FIK114-RE	190	86	35	180	60
R88A-FIK212-RE	238	85	40	228	60
R88A-FIK222-RE	291	130	45	278	100
R88A-FIK304-RE	190	86	40	180	60
R88A-FIK306-RE	245	94	40	235	60
R88A-FIK312-RE	290	130	45	280	100



Installation

Single-phase, 120 VAC (for MECHATROLINK-II servo drives)



\*1 For servo drives from 400 W, B2 and B3 are short-circuited. If the internal regenerative resistor is insufficient, remove the wire between B2 and B3 and connect an external regenerative resistor between B1 and B2.

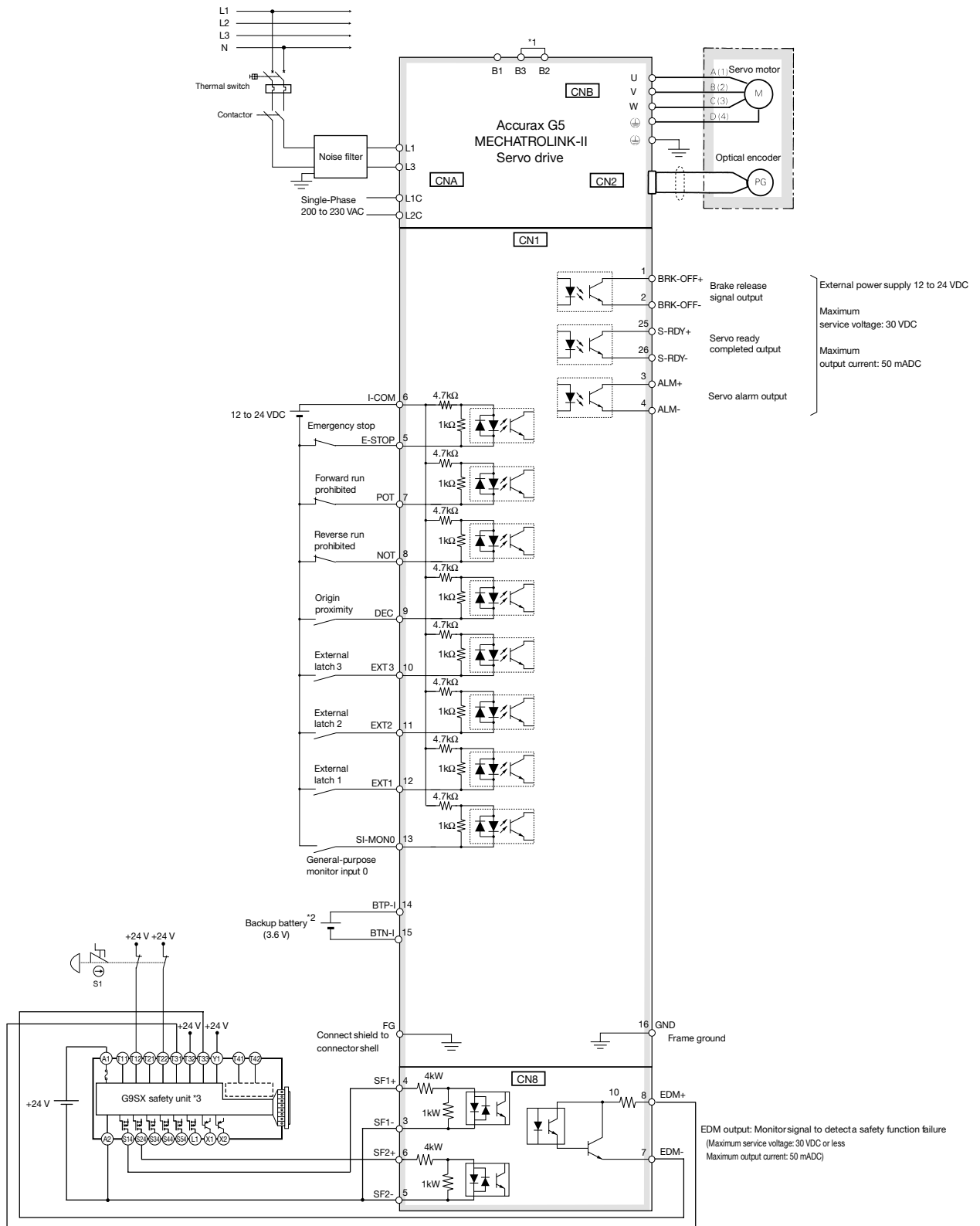
\*2 For use only with an absolute encoder. If a backup battery is connected to CN1 I/O connector, an encoder cable with a battery is not required.

\*3 Wiring diagram example using the G9SX safety unit. If a safety unit is not used, keep the factory safety bypass connector installed in the CN8.

Note: The input function of pins 5 and 7 to 13, and output function of pins 1, 2, 25 and 26, can be changed via parameter settings.

Installation

Single-phase, 230 VAC (for MECHATROLINK-II servo drives)



\*1 For servo drives from 750 W, B2 and B3 are short-circuited. If the internal regenerative resistor is insufficient, remove the wire between B2 and B3 and connect an external regenerative resistor between B1 and B2.

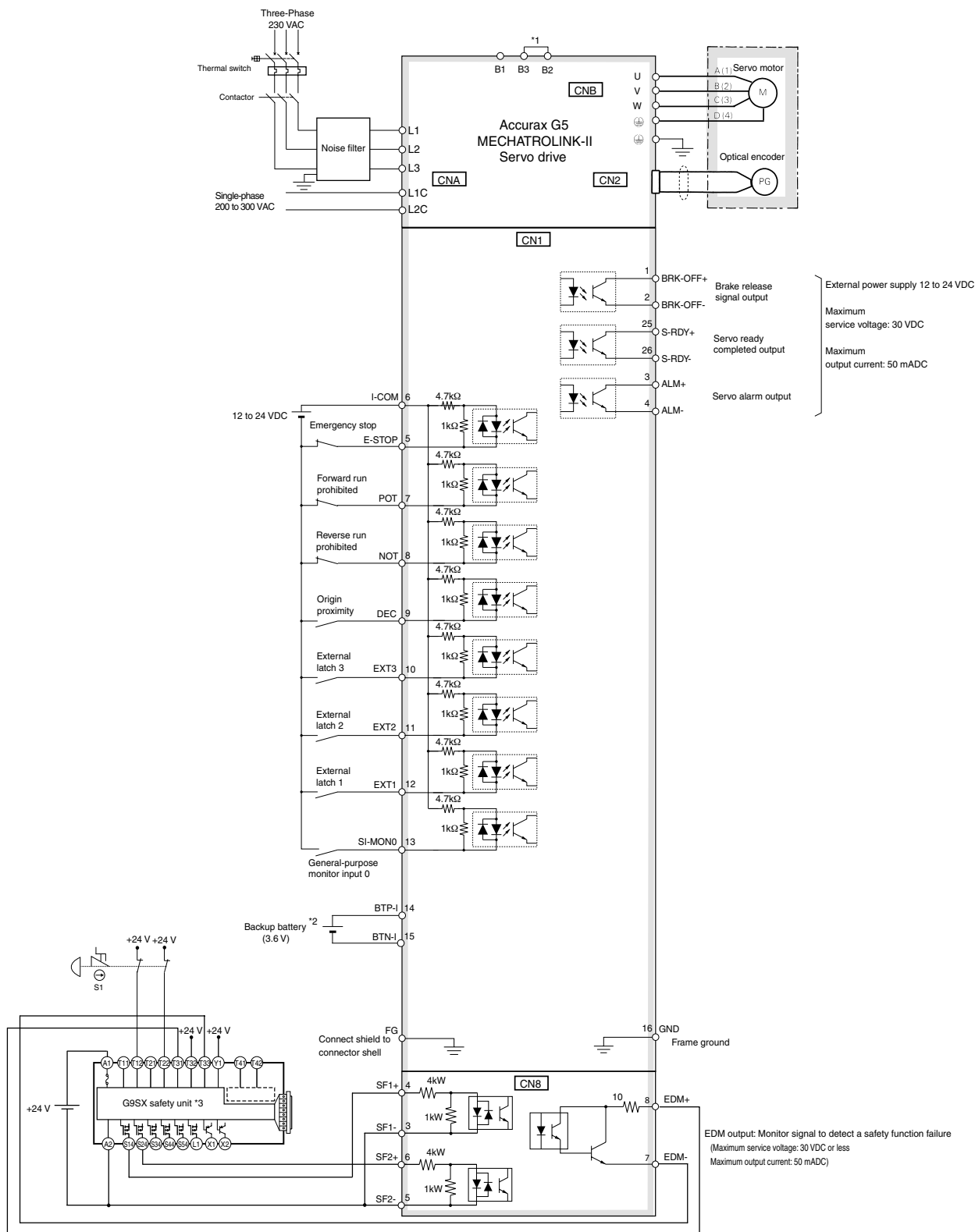
\*2 For use only with an absolute encoder. If a backup battery is connected to CN1 I/O connector, an encoder cable with a battery is not required.

\*3 Wiring diagram example using the G9SX safety unit. If a safety unit is not used, keep the factory safety bypass connector installed in the CN8.

Note: The input function of pins 5 and 7 to 13, and output function of pins 1, 2, 25 and 26, can be changed via parameter settings.

Installation

Three-phase, 230 VAC (for MECHATROLINK-II servo drives)



\*1 For servo drives from 750 W, B2 and B3 are short-circuited. If the internal regenerative resistor is insufficient, remove the wire between B2 and B3 and connect an external regenerative resistor between B1 and B2.

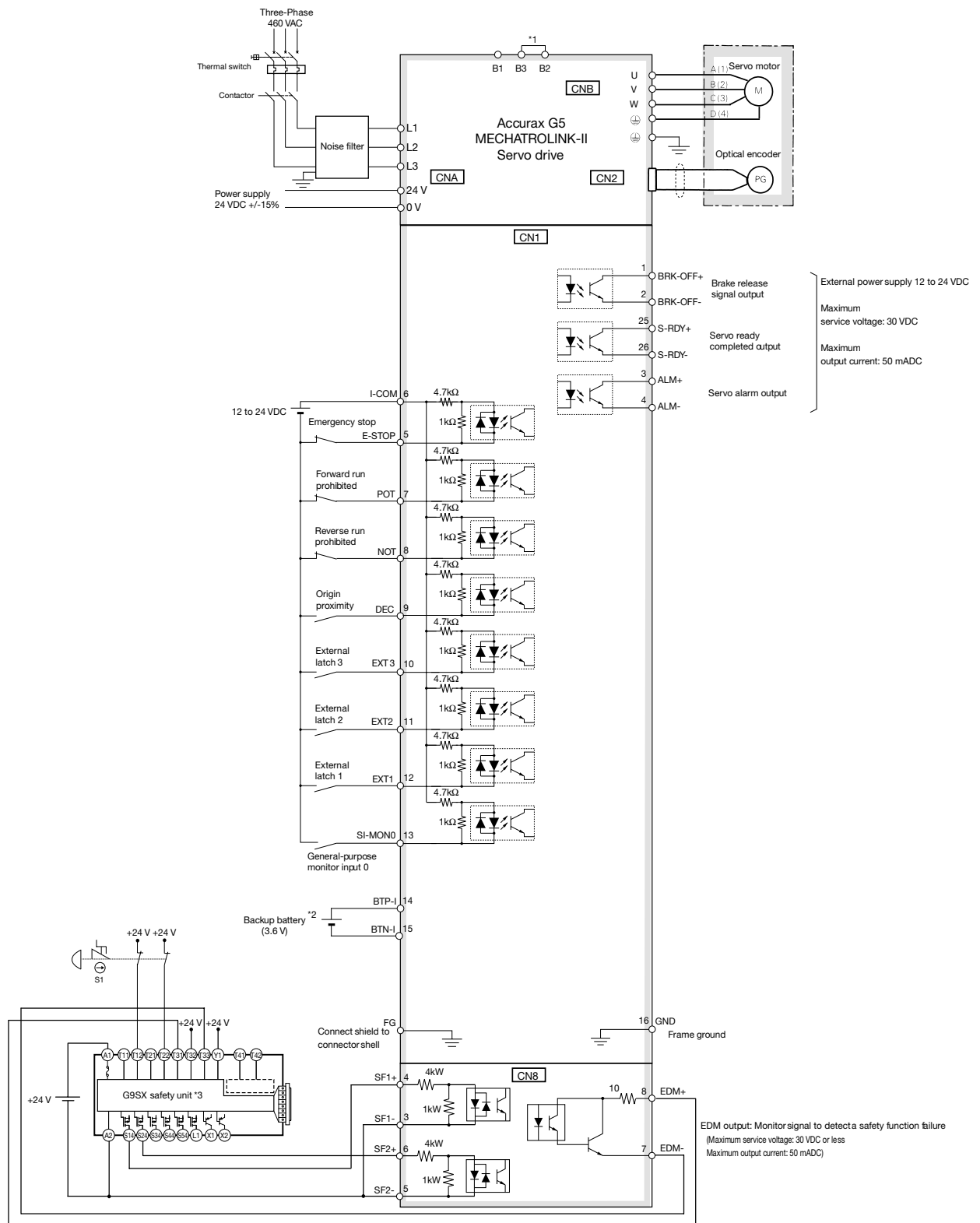
\*2 For use only with an absolute encoder. If a backup battery is connected to CN1 I/O connector, an encoder cable with a battery is not required.

\*3 Wiring diagram example using the G9SX safety unit. If a safety unit is not used, keep the factory safety bypass connector installed in the CN8.

Note: The input function of pins 5 and 7 to 13, and output function of pins 1, 2, 25 and 26, can be changed via parameter settings.

Installation

Three-phase, 460 VAC (for MECHATROLINK-II servo drives)



\*1 Normally B2 and B3 are short-circuited. If the internal regenerative resistor is insufficient, remove the wire between B2 and B3 and connect an external regenerative resistor between B1 and B2.

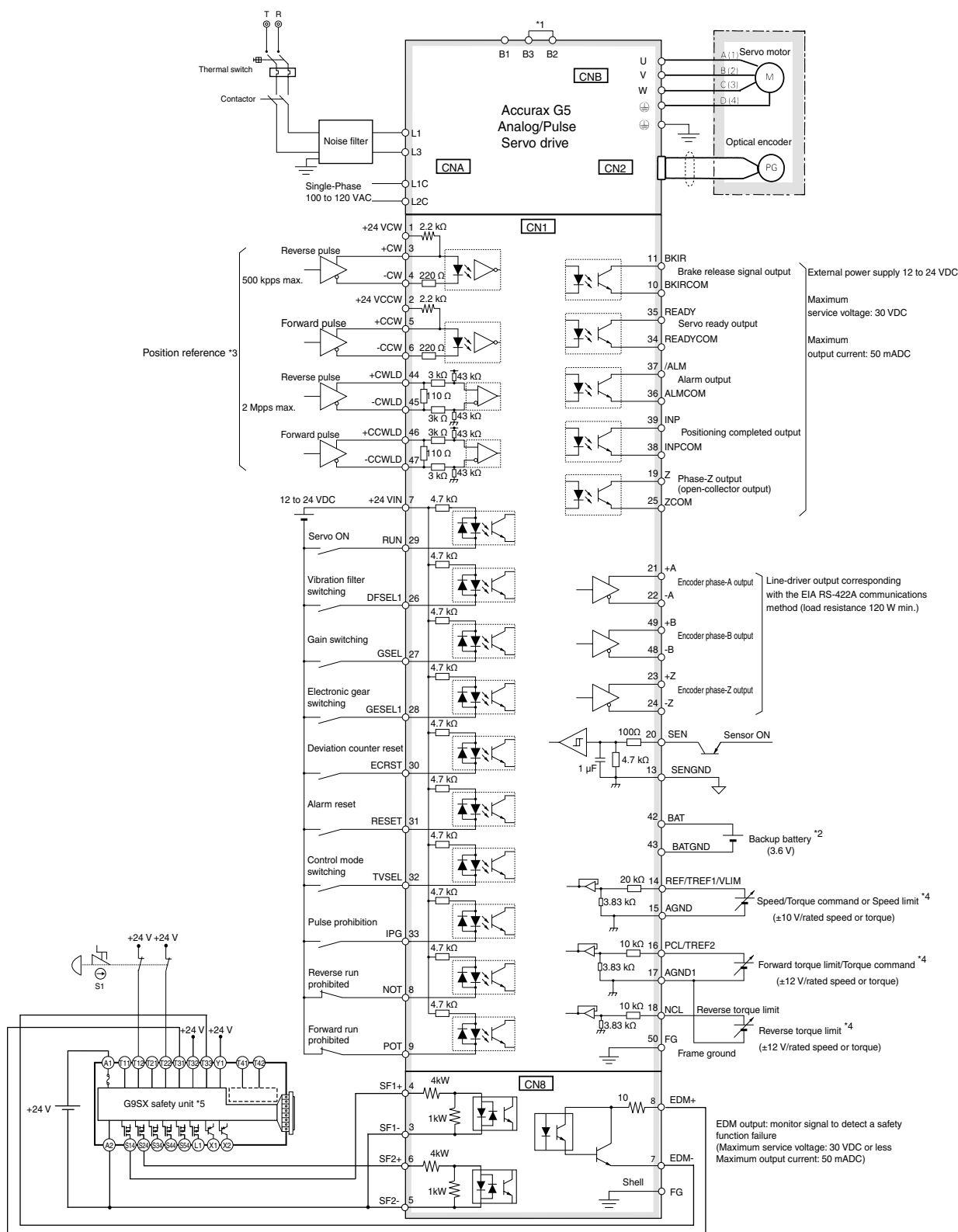
\*2 For use only with an absolute encoder. If a backup battery is connected to CN1 I/O connector, an encoder cable with a battery is not required.

\*3 Wiring diagram example using the G9SX safety unit. If a safety unit is not used, keep the factory safety bypass connector installed in the CN8.

Note: The input function of pins 5 and 7 to 13, and output function of pins 1, 2, 25 and 26, can be changed via parameter settings.

Installation

Single-phase, 120 VAC (for analog/pulse servo drives)



\*1 For servo drives from 400 W, B2 and B3 are short-circuited. If the internal regenerative resistor is insufficient, remove the wire between B2 and B3 and connect an external regenerative resistor between B1 and B2.

\*2 For use only with an absolute encoder. If a backup battery is connected to CN1 I/O connector, an encoder cable with a battery is not required.

\*3 Only available in Position control mode.

\*4 The input function depends on control mode used (Position, speed or torque control).

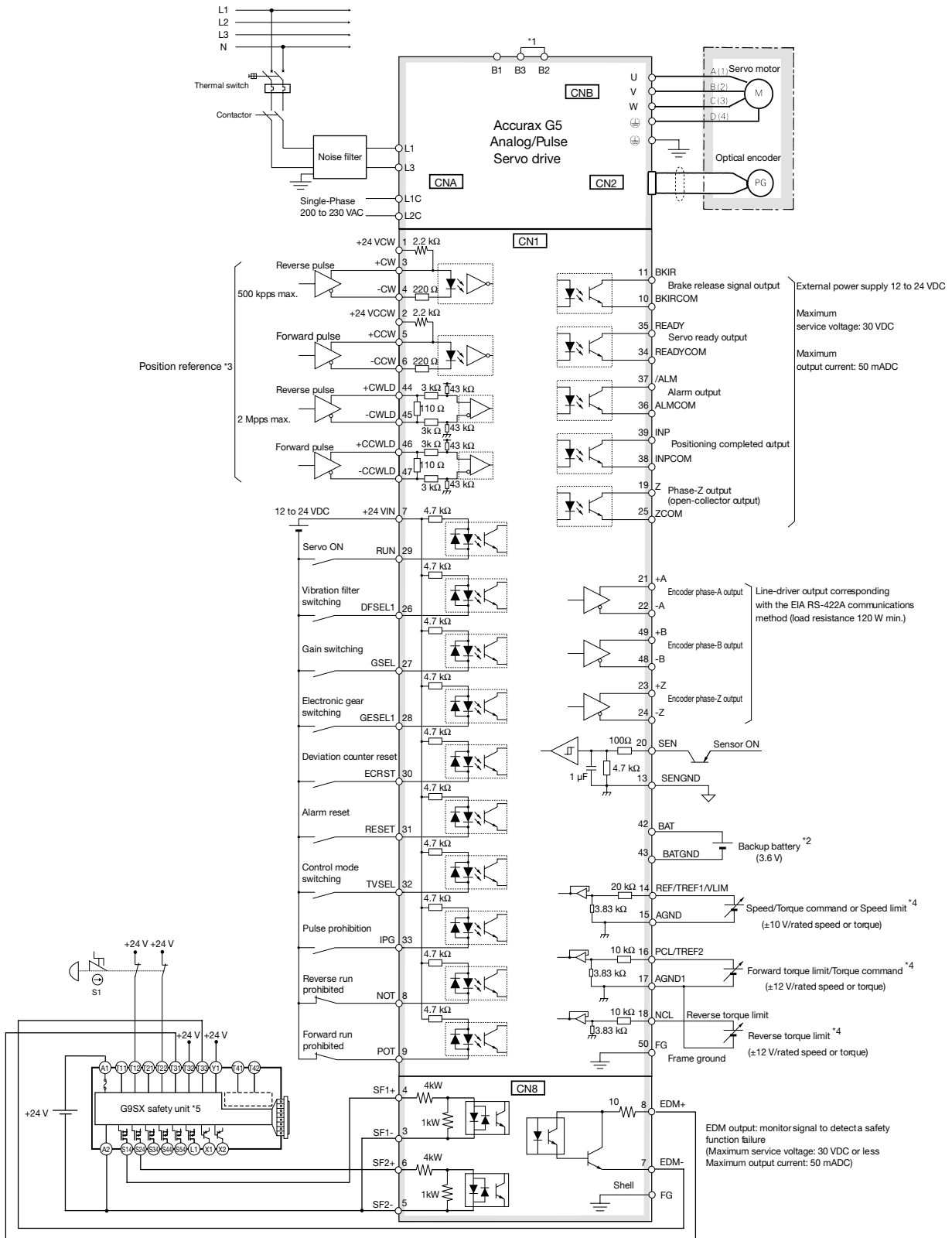
\*5 Wiring diagram example using the G9SX safety unit. If a safety unit is not used, keep the factory safety bypass connector installed in the CN8.

Note: The input function of pins 8, 9 and 26 to 33, and output function of pins 10, 11, 34, 35, 38 and 39, can be changed via parameter settings.



# Installation

## Single-phase, 230 VAC (for analog/pulse servo drives)

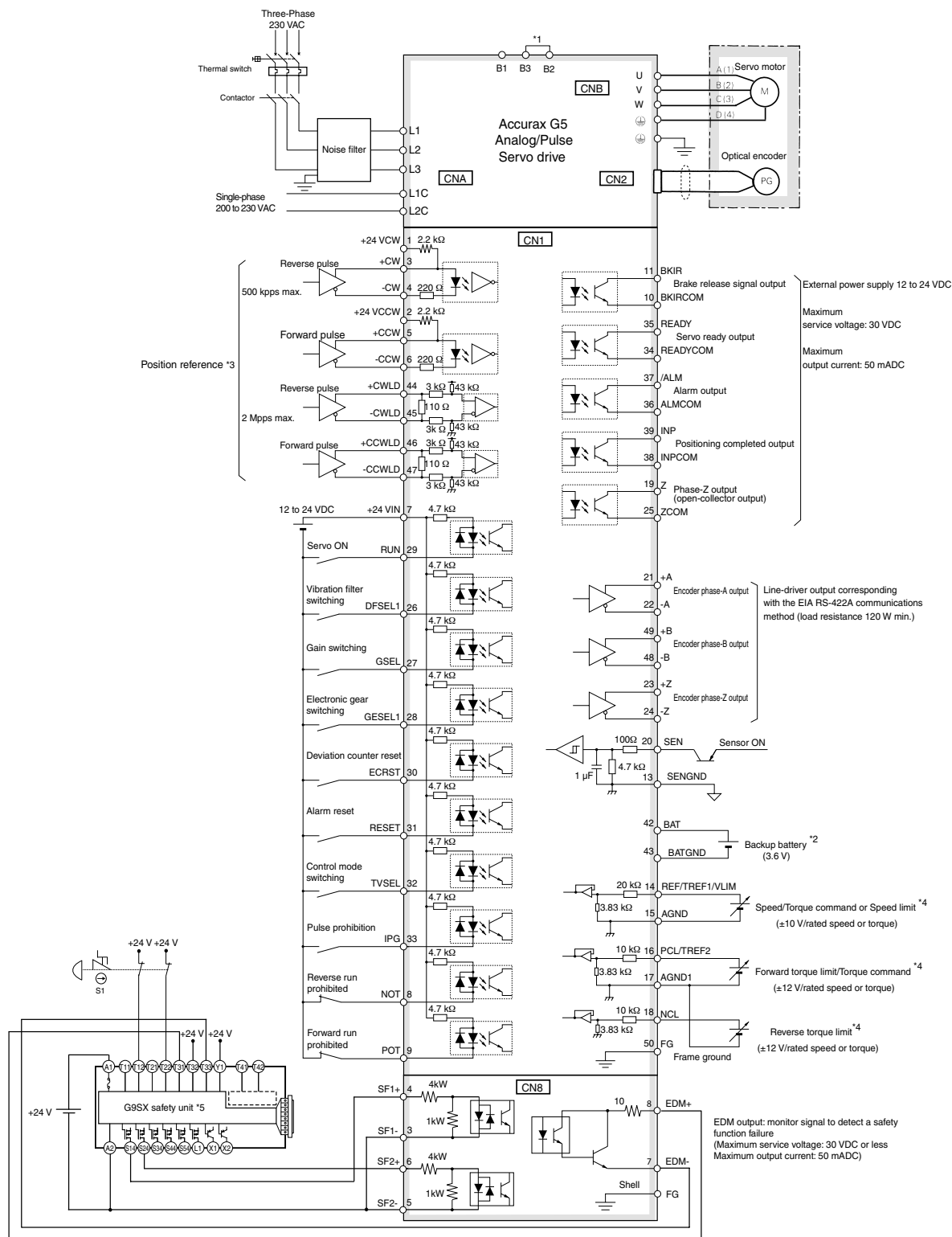


\*1 For servo drives from 750 W, B2 and B3 are short-circuited. If the internal regenerative resistor is insufficient, remove the wire between B2 and B3 and connect an external regenerative resistor between B1 and B2.  
 \*2 For use only with an absolute encoder. If a backup battery is connected to CN1 I/O connector, an encoder cable with a battery is not required.  
 \*3 Only available in Position control mode.  
 \*4 The input function depends on control mode used (Position, speed or torque control).  
 \*5 Wiring diagram example using the G9SX safety unit. If a safety unit is not used, keep the factory safety bypass connector installed in the CN8.

Note: The input function of pins 8, 9 and 26 to 33, and output function of pins 10, 11, 34, 35, 38 and 39, can be changed via parameter settings.

Installation

Three-phase, 230 VAC (for analog/pulse servo drives)



\*1 For servo drives from 750 W, B2 and B3 are short-circuited. If the internal regenerative resistor is insufficient, remove the wire between B2 and B3 and connect an external regenerative resistor between B1 and B2.

\*2 For use only with an absolute encoder. If a backup battery is connected to CN1 I/O connector, an encoder cable with a battery is not required.

\*3 Only available in Position control mode.

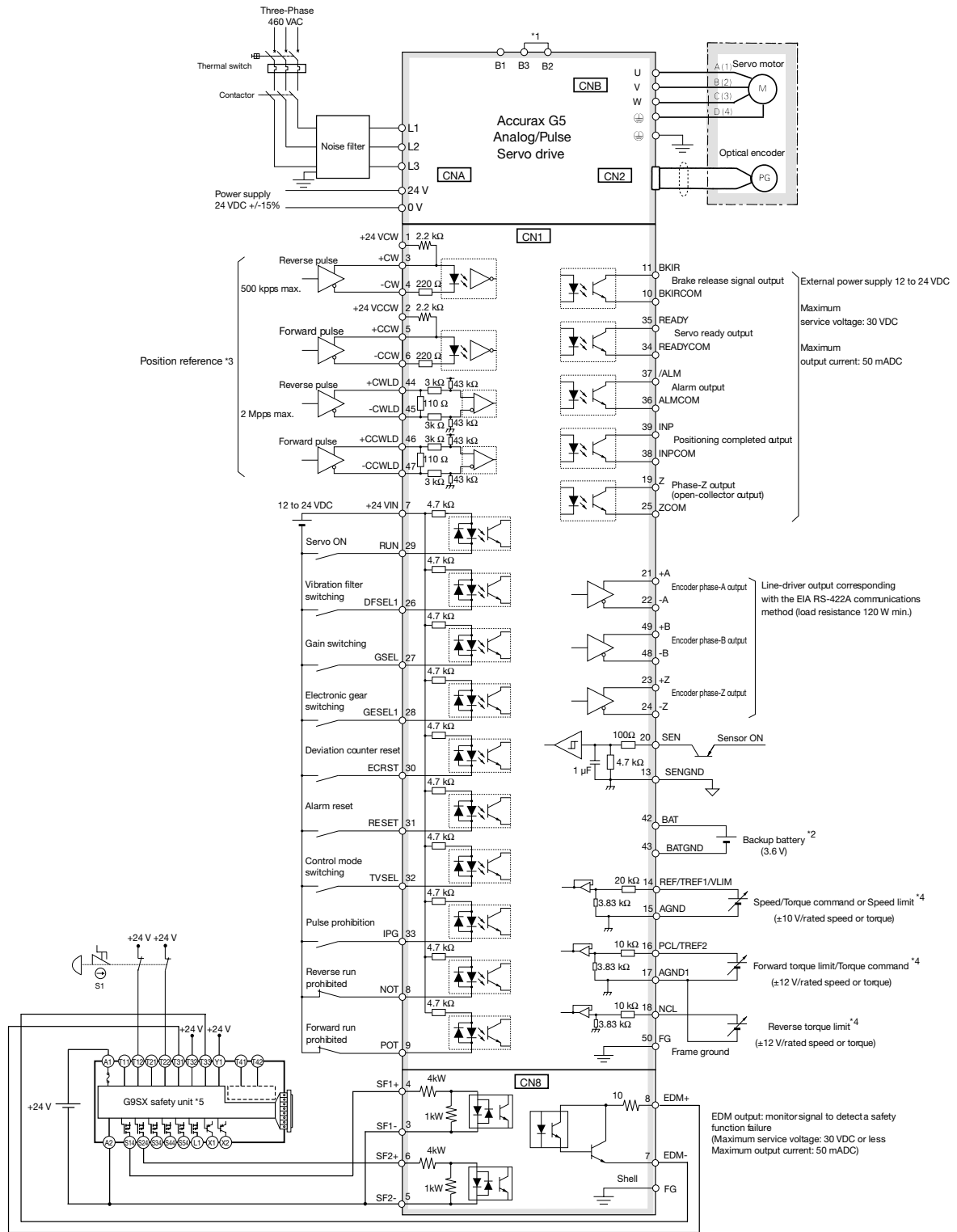
\*4 The input function depends on control mode used (Position, speed or torque control).

\*5 Wiring diagram example using the G9SX safety unit. If a safety unit is not used, keep the factory safety bypass connector installed in the CN8.

Note: The input function of pins 8, 9 and 26 to 33, and output function of pins 10, 11, 34, 35, 38 and 39, can be changed via parameter settings.

Installation

Three-phase, 460 VAC (for analog/pulse servo drives)

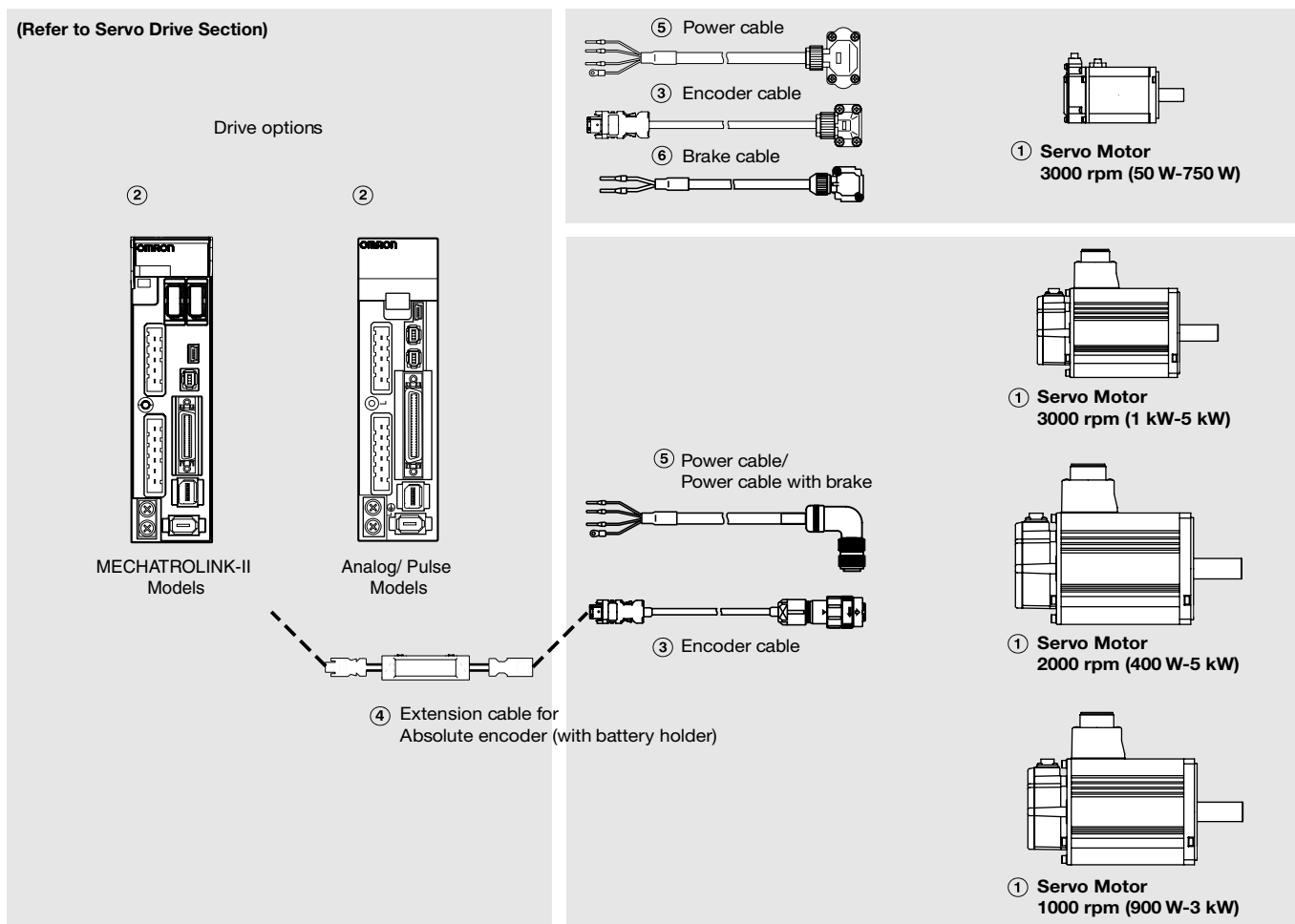


\*1 Normally B2 and B3 are short-circuited. If the internal regenerative resistor is insufficient, remove the wire between B2 and B3 and connect an external regenerative resistor between B1 and B2.  
 \*2 For use only with an absolute encoder. If a backup battery is connected to CN1 I/O connector, an encoder cable with a battery is not required.  
 \*3 Only available in Position control mode.  
 \*4 The input function depends on control mode used (Position, speed or torque control).  
 \*5 Wiring diagram example using the G9SX safety unit. If a safety unit is not used, keep the factory safety bypass connector installed in the CN8.

Note: The input function of pins 8, 9 and 26 to 33, and output function of pins 10, 11, 34, 35, 38 and 39, can be changed via parameter settings.

Ordering Information

Accurax G5 Servo Motor configuration




**Note:** The symbols ①②③... show the recommended sequence to select the servo motor and cables

**Servo motor** ① Select motor from R88M-K family using motor tables in next pages.


**Servo drive** ② Refer to Accurax G5 servo drive section for detailed drive specifications and selection of drive accessories.

Servo Motors 3000 r/min (50 W - 5 kW)

Symbol	Specifications				Servo motor model	Compatible servo drives ②		
	Voltage	Encoder and design	Rated torque	Capacity		G5 MECHATROLINK-II	G5 Analog/Pulse	
 <p>230 V (50 - 750 W)</p> <p>230 V (1000 - 1500 W) 400 V (750 - 5000 W)</p>	Single-phase 100 VAC	<b>Incremental encoder (20 bit)</b> Straight shaft with key and tap	Without brake	0.16 N • m	50 W	R88M-K05030H-S2	R88D-KNA5L-ML2	R88D-KTA5L
				0.32 N • m	100 W	R88M-K10030L-S2	R88D-KN01L-ML2	R88D-KT01L
				0.64 N • m	200 W	R88M-K20030L-S2	R88D-KN02L-ML2	R88D-KT02L
			With brake	1.3 N • m	400 W	R88M-K40030L-S2	R88D-KN04L-ML2	R88D-KT04L
				0.16 N • m	50 W	R88M-K05030H-BS2	R88D-KNA5L-ML2	R88D-KTA5L
				0.32 N • m	100 W	R88M-K10030L-BS2	R88D-KN01L-ML2	R88D-KT01L
		<b>Absolute encoder (17 bit)</b> Straight shaft with key and tap	Without brake	0.64 N • m	200 W	R88M-K20030L-BS2	R88D-KN02L-ML2	R88D-KT02L
				1.3 N • m	400 W	R88M-K40030L-BS2	R88D-KN04L-ML2	R88D-KT04L
				0.16 N • m	50 W	R88M-K05030T-S2	R88D-KNA5L-ML2	R88D-KTA5L
			With brake	0.32 N • m	100 W	R88M-K10030S-S2	R88D-KN01L-ML2	R88D-KT01L
				0.64 N • m	200 W	R88M-K20030S-S2	R88D-KN02L-ML2	R88D-KT02L
				1.3 N • m	400 W	R88M-K40030S-S2	R88D-KN04L-ML2	R88D-KT04L


Ordering Information

Servo Motors 3000 r/min (50 W - 5 kW)

Symbol	Specifications				Servo motor model	Compatible servo drives ②				
	Voltage	Encoder and design	Rated torque	Capacity		G5 MECHATROLINK-II	G5 Analog/Pulse			
<p>①</p>  <p>230 V (50 - 750 W)</p> <p>230 V (1000 - 1500 W) 400 V (750 - 5000 W)</p>	Single-phase/ three-phase 200 VAC	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	0.16 N • m	50 W	R88M-K05030H-S2	R88D-KN01H-ML2	R88D-KT01H		
				0.32 N • m	100 W	R88M-K10030H-S2	R88D-KN01H-ML2	R88D-KT01H		
				0.64 N • m	200 W	R88M-K20030H-S2	R88D-KN02H-ML2	R88D-KT02H		
				1.3 N • m	400 W	R88M-K40030H-S2	R88D-KN04H-ML2	R88D-KT04H		
				2.4 N • m	750 W	R88M-K75030H-S2	R88D-KN08H-ML2	R88D-KT08H		
				3.18 N • m	1 kW	R88M-K1K030H-S2	R88D-KN15H-ML2	R88D-KT15H		
			With brake	4.77 N • m	1.5 kW	R88M-K1K530H-S2	R88D-KN15H-ML2	R88D-KT15H		
				0.16 N • m	50 W	R88M-K05030H-BS2	R88D-KN01H-ML2	R88D-KT01H		
				0.32 N • m	100 W	R88M-K10030H-BS2	R88D-KN01H-ML2	R88D-KT01H		
				0.64 N • m	200 W	R88M-K20030H-BS2	R88D-KN02H-ML2	R88D-KT02H		
				1.3 N • m	400 W	R88M-K40030H-BS2	R88D-KN04H-ML2	R88D-KT04H		
				2.4 N • m	750 W	R88M-K75030H-BS2	R88D-KN08H-ML2	R88D-KT08H		
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	3.18 N • m	1 kW	R88M-K1K030H-BS2	R88D-KN15H-ML2	R88D-KT15H		
				4.77 N • m	1.5 kW	R88M-K1K530H-BS2	R88D-KN15H-ML2	R88D-KT15H		
				0.16 N • m	50 W	R88M-K05030T-S2	R88D-KN01H-ML2	R88D-KT01H		
				0.32 N • m	100 W	R88M-K10030T-S2	R88D-KN01H-ML2	R88D-KT01H		
				0.64 N • m	200 W	R88M-K20030T-S2	R88D-KN02H-ML2	R88D-KT02H		
				1.3 N • m	400 W	R88M-K40030T-S2	R88D-KN04H-ML2	R88D-KT04H		
			With brake	2.4 N • m	750 W	R88M-K75030T-S2	R88D-KN08H-ML2	R88D-KT08H		
				3.18 N • m	1 kW	R88M-K1K030T-S2	R88D-KN15H-ML2	R88D-KT15H		
				4.77 N • m	1.5 kW	R88M-K1K530T-S2	R88D-KN15H-ML2	R88D-KT15H		
				0.16 N • m	50 W	R88M-K05030T-BS2	R88D-KN01H-ML2	R88D-KT01H		
				0.32 N • m	100 W	R88M-K10030T-BS2	R88D-KN01H-ML2	R88D-KT01H		
				0.64 N • m	200 W	R88M-K20030T-BS2	R88D-KN02H-ML2	R88D-KT02H		
	3-phase 200 VAC	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	1.3 N • m	400 W	R88M-K40030H-S2	R88D-KN04H-ML2	R88D-KT04H		
				2.4 N • m	750 W	R88M-K75030H-S2	R88D-KN08H-ML2	R88D-KT08H		
				3.18 N • m	1 kW	R88M-K1K030H-S2	R88D-KN15H-ML2	R88D-KT15H		
				4.77 N • m	1.5 kW	R88M-K1K530H-S2	R88D-KN15H-ML2	R88D-KT15H		
				6.37 N • m	2 kW	R88M-K2K030H-S2	R88D-KN20H-ML2	R88D-KT20H		
				9.55 N • m	3 kW	R88M-K3K030H-S2	R88D-KN30H-ML2	R88D-KT30H		
			With brake	15.9 N • m	5 kW	R88M-K5K030H-S2	R88D-KN50H-ML2	R88D-KT50H		
				6.37 N • m	2 kW	R88M-K2K030H-BS2	R88D-KN20H-ML2	R88D-KT20H		
				9.55 N • m	3 kW	R88M-K3K030H-BS2	R88D-KN30H-ML2	R88D-KT30H		
				15.9 N • m	5 kW	R88M-K5K030H-BS2	R88D-KN50H-ML2	R88D-KT50H		
				6.37 N • m	2 kW	R88M-K2K030T-S2	R88D-KN20H-ML2	R88D-KT20H		
				9.55 N • m	3 kW	R88M-K3K030T-S2	R88D-KN30H-ML2	R88D-KT30H		
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	15.9 N • m	5 kW	R88M-K5K030T-S2	R88D-KN50H-ML2	R88D-KT50H		
				6.37 N • m	2 kW	R88M-K2K030T-S2	R88D-KN20H-ML2	R88D-KT20H		
				9.55 N • m	3 kW	R88M-K3K030T-S2	R88D-KN30H-ML2	R88D-KT30H		
				15.9 N • m	5 kW	R88M-K5K030T-S2	R88D-KN50H-ML2	R88D-KT50H		
				6.37 N • m	2 kW	R88M-K2K030T-BS2	R88D-KN20H-ML2	R88D-KT20H		
				9.55 N • m	3 kW	R88M-K3K030T-BS2	R88D-KN30H-ML2	R88D-KT30H		
			3-phase 400 VAC	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	2.39 N • m	750 W	R88M-K75030F-S2	R88D-KN10F-ML2	R88D-KT10F
						3.18 N • m	1 kW	R88M-K1K030F-S2	R88D-KN15F-ML2	R88D-KT15F
						4.77 N • m	1.5 kW	R88M-K1K530F-S2	R88D-KN15F-ML2	R88D-KT15F
						6.37 N • m	2 kW	R88M-K2K030F-S2	R88D-KN20F-ML2	R88D-KT20F
						9.55 N • m	3 kW	R88M-K3K030F-S2	R88D-KN30F-ML2	R88D-KT30F
						12.7 N • m	4 kW	R88M-K4K030F-S2	R88D-KN50F-ML2	R88D-KT50F
With brake	15.9 N • m	5 kW			R88M-K5K030F-S2	R88D-KN50F-ML2	R88D-KT50F			
	2.39 N • m	750 W			R88M-K75030F-BS2	R88D-KN10F-ML2	R88D-KT10F			
	3.18 N • m	1 kW			R88M-K1K030F-BS2	R88D-KN15F-ML2	R88D-KT15F			
	4.77 N • m	1.5 kW			R88M-K1K530F-BS2	R88D-KN15F-ML2	R88D-KT15F			
	6.37 N • m	2 kW			R88M-K2K030F-BS2	R88D-KN20F-ML2	R88D-KT20F			
	9.55 N • m	3 kW			R88M-K3K030F-BS2	R88D-KN30F-ML2	R88D-KT30F			
Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	12.7 N • m	4 kW	R88M-K4K030F-BS2	R88D-KN50F-ML2	R88D-KT50F				
		15.9 N • m	5 kW	R88M-K5K030F-BS2	R88D-KN50F-ML2	R88D-KT50F				
		2.39 N • m	750 W	R88M-K75030C-S2	R88D-KN10F-ML2	R88D-KT10F				
		3.18 N • m	1 kW	R88M-K1K030C-S2	R88D-KN15F-ML2	R88D-KT15F				
		4.77 N • m	1.5 kW	R88M-K1K530C-S2	R88D-KN15F-ML2	R88D-KT15F				
		6.37 N • m	2 kW	R88M-K2K030C-S2	R88D-KN20F-ML2	R88D-KT20F				
	With brake	9.55 N • m	3 kW	R88M-K3K030C-S2	R88D-KN30F-ML2	R88D-KT30F				
		12.7 N • m	4 kW	R88M-K4K030C-S2	R88D-KN50F-ML2	R88D-KT50F				
		15.9 N • m	5 kW	R88M-K5K030C-S2	R88D-KN50F-ML2	R88D-KT50F				
		2.39 N • m	750 W	R88M-K75030C-BS2	R88D-KN10F-ML2	R88D-KT10F				
		3.18 N • m	1 kW	R88M-K1K030C-BS2	R88D-KN15F-ML2	R88D-KT15F				
		4.77 N • m	1.5 kW	R88M-K1K530C-BS2	R88D-KN15F-ML2	R88D-KT15F				
	6.37 N • m	2 kW	R88M-K2K030C-BS2	R88D-KN20F-ML2	R88D-KT20F					
	9.55 N • m	3 kW	R88M-K3K030C-BS2	R88D-KN30F-ML2	R88D-KT30F					
	12.7 N • m	4 kW	R88M-K4K030C-BS2	R88D-KN50F-ML2	R88D-KT50F					
	15.9 N • m	5 kW	R88M-K5K030C-BS2	R88D-KN50F-ML2	R88D-KT50F					


Ordering Information

Servo Motors 2000 r/min (1 - 5 kW)

Symbol	Specifications				Servo motor model	Compatible servo drives ②					
	Voltage	Encoder and design	Rated torque	Capacity		G5 MECHATROLINK-II	G5 Analog/Pulse				
① 	Single-phase/3-phase 200 VAC	<b>Incremental encoder (20 bit)</b> Straight shaft with key and tap	Without brake	4.77 N • m	1 kW	R88M-K1K020H-S2	R88D-KN10H-ML2	R88D-KT10H			
	3-phase 200 VAC			7.16 N • m	1.5 kW	R88M-K1K520H-S2	R88D-KN15H-ML2	R88D-KT15H			
				9.55 N • m	2 kW	R88M-K2K020H-S2	R88D-KN20H-ML2	R88D-KT20H			
				14.3 N • m	3 kW	R88M-K3K020H-S2	R88D-KN30H-ML2	R88D-KT30H			
				19.1 N • m	4 kW	R88M-K4K020H-S2	R88D-KN50H-ML2	R88D-KT50H			
				23.9 N • m	5 kW	R88M-K5K020H-S2	R88D-KN50H-ML2	R88D-KT50H			
			Single-phase/3-phase 200 VAC	With brake	4.77 N • m	1 kW	R88M-K1K020H-BS2	R88D-KN10H-ML2	R88D-KT10H		
	3-phase 200 VAC		7.16 N • m		1.5 kW	R88M-K1K520H-BS2	R88D-KN15H-ML2	R88D-KT15H			
			9.55 N • m		2 kW	R88M-K2K020H-BS2	R88D-KN20H-ML2	R88D-KT20H			
			14.3 N • m		3 kW	R88M-K3K020H-BS2	R88D-KN30H-ML2	R88D-KT30H			
			19.1 N • m		4 kW	R88M-K4K020H-BS2	R88D-KN50H-ML2	R88D-KT50H			
			23.9 N • m		5 kW	R88M-K5K020H-BS2	R88D-KN50H-ML2	R88D-KT50H			
		Single-phase/3-phase 200 VAC	<b>Absolute encoder (17 bit)</b> Straight shaft with key and tap	Without brake	4.77 N • m	1 kW	R88M-K1K020T-S2	R88D-KN10H-ML2	R88D-KT10H		
	3-phase 200 VAC	7.16 N • m			1.5 kW	R88M-K1K520T-S2	R88D-KN15H-ML2	R88D-KT15H			
		9.55 N • m			2 kW	R88M-K2K020T-S2	R88D-KN20H-ML2	R88D-KT20H			
		14.3 N • m			3 kW	R88M-K3K020T-S2	R88D-KN30H-ML2	R88D-KT30H			
		19.1 N • m			4 kW	R88M-K4K020T-S2	R88D-KN50H-ML2	R88D-KT50H			
		23.9 N • m			5 kW	R88M-K5K020T-S2	R88D-KN50H-ML2	R88D-KT50H			
		Single-phase/3-phase 200 VAC		With brake	4.77 N • m	1 kW	R88M-K1K020T-BS2	R88D-KN10H-ML2	R88D-KT10H		
	3-phase 200 VAC	7.16 N • m			1.5 kW	R88M-K1K520T-BS2	R88D-KN15H-ML2	R88D-KT15H			
		9.55 N • m			2 kW	R88M-K2K020T-BS2	R88D-KN20H-ML2	R88D-KT20H			
		14.3 N • m			3 kW	R88M-K3K020T-BS2	R88D-KN30H-ML2	R88D-KT30H			
		19.1 N • m			4 kW	R88M-K4K020T-BS2	R88D-KN50H-ML2	R88D-KT50H			
		23.9 N • m			5 kW	R88M-K5K020T-BS2	R88D-KN50H-ML2	R88D-KT50H			
		3-phase 400 VAC	<b>Incremental encoder (20 bit)</b> Straight shaft with key and tap	Without brake	1.91 N • m	400 W	R88M-K40020F-S2	R88D-KN06F-ML2	R88D-KT06F		
	2.86 N • m				600 W	R88M-K60020F-S2	R88D-KN06F-ML2	R88D-KT06F			
	4.77 N • m				1 kW	R88M-K1K020F-S2	R88D-KN10F-ML2	R88D-KT10F			
	7.16 N • m				1.5 kW	R88M-K1K520F-S2	R88D-KN15F-ML2	R88D-KT15F			
	9.55 N • m				2 kW	R88M-K2K020F-S2	R88D-KN20F-ML2	R88D-KT20F			
	14.3 N • m				3 kW	R88M-K3K020F-S2	R88D-KN30F-ML2	R88D-KT30F			
	19.1 N • m				4 kW	R88M-K4K020F-S2	R88D-KN50F-ML2	R88D-KT50F			
	23.9 N • m				5 kW	R88M-K5K020F-S2	R88D-KN50F-ML2	R88D-KT50F			
	3-phase 400 VAC				With brake	1.91 N • m	400 W	R88M-K40020F-BS2	R88D-KN06F-ML2	R88D-KT06F	
						2.86 N • m	600 W	R88M-K60020F-BS2	R88D-KN06F-ML2	R88D-KT06F	
						4.77 N • m	1 kW	R88M-K1K020F-BS2	R88D-KN10F-ML2	R88D-KT10F	
						7.16 N • m	1.5 kW	R88M-K1K520F-BS2	R88D-KN15F-ML2	R88D-KT15F	
				9.55 N • m		2 kW	R88M-K2K020F-BS2	R88D-KN20F-ML2	R88D-KT20F		
				14.3 N • m		3 kW	R88M-K3K020F-BS2	R88D-KN30F-ML2	R88D-KT30F		
	3-phase 400 VAC			<b>Absolute encoder (17 bit)</b> Straight shaft with key and tap	Without brake	1.91 N • m	400 W	R88M-K40020C-S2	R88D-KN06F-ML2	R88D-KT06F	
						2.86 N • m	600 W	R88M-K60020C-S2	R88D-KN06F-ML2	R88D-KT06F	
						4.77 N • m	1 kW	R88M-K1K020C-S2	R88D-KN10F-ML2	R88D-KT10F	
						7.16 N • m	1.5 kW	R88M-K1K520C-S2	R88D-KN15F-ML2	R88D-KT15F	
						9.55 N • m	2 kW	R88M-K2K020C-S2	R88D-KN20F-ML2	R88D-KT20F	
						14.3 N • m	3 kW	R88M-K3K020C-S2	R88D-KN30F-ML2	R88D-KT30F	
					3-phase 400 VAC	With brake	1.91 N • m	400 W	R88M-K40020C-BS2	R88D-KN06F-ML2	R88D-KT06F
							2.86 N • m	600 W	R88M-K60020C-BS2	R88D-KN06F-ML2	R88D-KT06F
							4.77 N • m	1 kW	R88M-K1K020C-BS2	R88D-KN10F-ML2	R88D-KT10F
							7.16 N • m	1.5 kW	R88M-K1K520C-BS2	R88D-KN15F-ML2	R88D-KT15F
9.55 N • m		2 kW	R88M-K2K020C-BS2				R88D-KN20F-ML2	R88D-KT20F			
14.3 N • m		3 kW	R88M-K3K020C-BS2				R88D-KN30F-ML2	R88D-KT30F			
19.1 N • m	4 kW	R88M-K4K020C-BS2	R88D-KN50F-ML2	R88D-KT50F							
23.9 N • m	5 kW	R88M-K5K020C-BS2	R88D-KN50F-ML2	R88D-KT50F							

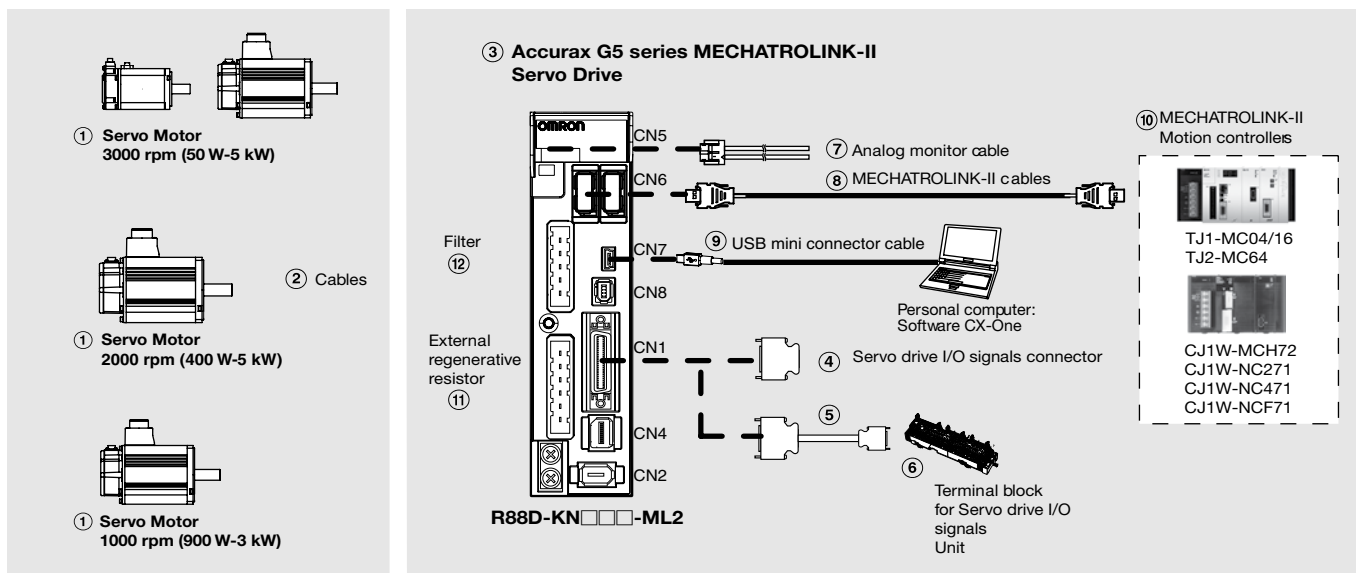
**Ordering Information**

**Servo Motors 1000 r/min (900 W - 3 kW)**

Symbol	Specifications				Servo motor model	Compatible servo drives ②		
	Voltage	Encoder and design	Rated torque	Capacity		G5 MECHATROLINK-II	G5 Analog/Pulse	
① 	Single-phase/3-phase 200 V	<b>Incremental encoder (20 bit)</b> Straight shaft with key and tap	Without brake	8.59 N • m	900 W	R88M-K90010H-S2	R88D-KN15H-ML2	R88D-KT15H
	3-phase 200 V			19.1 N • m	2 kW	R88M-K2K010H-S2	R88D-KN30H-ML2	R88D-KT30H
	3-phase 200 V			28.7 N • m	3 kW	R88M-K3K010H-S2	R88D-KN50H-ML2	R88D-KT50H
	Single-phase/3-phase 200 V		With brake	8.59 N • m	900 W	R88M-K90010H-BS2	R88D-KN15H-ML2	R88D-KT15H
	3-phase 200 V			19.1 N • m	2 kW	R88M-K2K010H-BS2	R88D-KN30H-ML2	R88D-KT30H
	3-phase 200 V			28.7 N • m	3 kW	R88M-K3K010H-BS2	R88D-KN50H-ML2	R88D-KT50H
	Single-phase/3-phase 200 V	<b>Absolute encoder (17 bit)</b> Straight shaft with key and tap	Without brake	8.59 N • m	900 W	R88M-K90010T-S2	R88D-KN15H-ML2	R88D-KT15H
	3-phase 200 V			19.1 N • m	2 kW	R88M-K2K010T-S2	R88D-KN30H-ML2	R88D-KT30H
	3-phase 200 V			28.7 N • m	3 kW	R88M-K3K010T-S2	R88D-KN50H-ML2	R88D-KT50H
	Single-phase/3-phase 200 V		With brake	8.59 N • m	900 W	R88M-K90010T-BS2	R88D-KN15H-ML2	R88D-KT15H
	3-phase 200 V			19.1 N • m	2 kW	R88M-K2K010T-BS2	R88D-KN30H-ML2	R88D-KT30H
	3-phase 200 V			28.7 N • m	3 kW	R88M-K3K010T-BS2	R88D-KN50H-ML2	R88D-KT50H
	3-phase 400 V	<b>Incremental encoder (20 bit)</b> Straight shaft with key and tap	Without brake	8.59 N • m	900 W	R88M-K90010F-S2	R88D-KN15F-ML2	R88D-KT15F
	3-phase 400 V			19.1 N • m	2 kW	R88M-K2K010F-S2	R88D-KN30F-ML2	R88D-KT30F
	3-phase 400 V			28.7 N • m	3 kW	R88M-K3K010F-S2	R88D-KN50F-ML2	R88D-KT50F
	3-phase 400 V		With brake	8.59 N • m	900 W	R88M-K90010F-BS2	R88D-KN15F-ML2	R88D-KT15F
	3-phase 400 V			19.1 N • m	2 kW	R88M-K2K010F-BS2	R88D-KN30F-ML2	R88D-KT30F
	3-phase 400 V			28.7 N • m	3 kW	R88M-K3K010F-BS2	R88D-KN50F-ML2	R88D-KT50F
	3-phase 400 V	<b>Absolute encoder (17 bit)</b> Straight shaft with key and tap	Without brake	8.59 N • m	900 W	R88M-K90010T-S2	R88D-KN15F-ML2	R88D-KT15F
	3-phase 400 V			19.1 N • m	2 kW	R88M-K2K010T-S2	R88D-KN30F-ML2	R88D-KT30F
	3-phase 400 V			28.7 N • m	3 kW	R88M-K3K010T-S2	R88D-KN50F-ML2	R88D-KT50F
	3-phase 400 V		With brake	8.59 N • m	900 W	R88M-K90010T-BS2	R88D-KN15F-ML2	R88D-KT15F
	3-phase 400 V			19.1 N • m	2 kW	R88M-K2K010T-BS2	R88D-KN30F-ML2	R88D-KT30F
	3-phase 400 V			28.7 N • m	3 kW	R88M-K3K010T-BS2	R88D-KN50F-ML2	R88D-KT50F

Ordering Information

Accurax G5 series MECHATROLINK-II Reference configuration



Note: The symbols ①②③④⑤... show the recommended sequence to select the components in Accurax G5 servo system

Servo motors, power & encoder cables

Note: ①② Refer to the Accurax G5 servo motor section for servomotor, motor cables or connectors selection

MECHATROLINK-II Servo Drives

Symbol	Specifications	Servo drive model	Compatible G5 series rotary servo motors ①		
③	1-phase, 120 VAC	50 W	R88D-KNA5L-ML2	R88M-K05030(H/T)-□	
		100 W	R88D-KN01L-ML2	R88M-K10030(L/S)-□	
		200 W	R88D-KN02L-ML2	R88M-K20030(L/S)-□	
		400 W	R88D-KN04L-ML2	R88M-K40030(L/S)-□	
	1-phase, 230 VAC	100 W	R88D-KN01H-ML2	R88M-K05030(H/T)-□ R88M-K10030(H/T)-□	
			R88D-KN02H-ML2	R88M-K20030(H/T)-□	
			R88D-KN04H-ML2	R88M-K40030(H/T)-□	
			R88D-KN08H-ML2	R88M-K75030(H/T)-□	
		1.5 kW	R88D-KN10H-ML2	R88M-K1K020(H/T)-□ R88M-K1K030(H/T)-□ R88M-K1K530(H/T)-□ R88M-K1K520(H/T)-□ R88M-K90010(H/T)-□	
			2 kW	R88D-KN20H-ML2	R88M-K2K030(H/T)-□
				R88D-KN30H-ML2	R88M-K3K030(H/T)-□
				R88D-KN50H-ML2	R88M-K5K030(H/T)-□
	3-phase, 230 VAC	600 W	R88D-KN06F-ML2	R88M-K40020(F/C)-□ R88M-K60020(F/C)-□	
			1 kW	R88D-KN10F-ML2	R88M-K75030(F/C)-□ R88M-K1K020(F/C)-□ R88M-K1K030(F/C)-□
				R88D-KN15F-ML2	R88M-K1K530(F/C)-□ R88M-K1K520(F/C)-□ R88M-K90010(F/C)-□
		2 kW	R88D-KN20F-ML2	R88M-K2K030(F/C)-□ R88M-K2K020(F/C)-□	
			3 kW	R88D-KN30F-ML2	R88M-K3K030(F/C)-□ R88M-K3K020(F/C)-□ R88M-K2K010(F/C)-□
				5 kW	R88D-KN50F-ML2



## Ordering Information

### Control Cables (for CN1)

Symbol	Description	Connect to		Model
④	I/O connector kit (26 pins)	For I/O general purpose	-	R88A-CNW01C
⑤	Terminal block cable		1 m	XW2Z-100J-B34
			2 m	XW2Z-200J-B34
⑥	Terminal block (M3 screw and for pin terminals)	For I/O general purpose	-	XW2B-20G4
	Terminal block (M3.5 screw and for fork/round terminals)		-	XW2B-20G5
	Terminal block (M3 screw and for fork/round terminals)		-	XW2D-20G6

### Analog monitor (for CN5)

Symbol	Name		Model
⑦	Analog monitor cable	1 m	R88A-CMK001S

### MECHATROLINK-II cables (for CN6)

Symbol	Specifications	Length	Model
⑧	MECHATROLINK-II Terminator resistor	-	FN1-W6022
		0.5 m	FN1-W6003-A5
	MECHATROLINK-II cables	1 m	FN1-W6003-01
		3 m	FN1-W6003-03
		5 m	FN1-W6003-05
		10 m	FN1-W6003-10
		20 m	FN1-W6003-20
		30 m	FN1-W6003-30

### USB personal computer cable (for CN7)

Symbol	Name		Model
⑨	USB mini-connector cable	2 m	3G3AX-CUSBM002-E

### Filters

Specifications	Power	Drive model	Filter model	Rated current (A)	Leakage current (mA)
Single-phase 120 VAC	50 W	R88D-KTA5L/R88D-KNA5L	R88A-FIK102-RE	2.4	3.5
	100 W	R88D-KT01L/R88D-KN01L	R88A-FIK102-RE	2.4	3.5
	200 W	R88D-KT02L/R88D-KN02L	R88A-FIK104-RE	4.1	3.5
	400 W	R88D-KT04L/R88D-KN04L	R88A-FIK107-RE	6.6	3.5
Single-phase 230 VAC	100 W	R88D-KT01H/R88D-KN01H	R88A-FIK102-RE	2.4	3.5
	200 W	R88D-KT02H/R88D-KN02H	R88A-FIK102-RE	2.4	3.5
	400 W	R88D-KT04H/R88D-KN04H	R88A-FIK104-RE	4.1	3.5
	750 W	R88D-KT08H/R88D-KN08H	R88A-FIK107-RE	6.6	3.5
	1 kW	R88D-KT10H/R88D-KN10H	R88A-FIK114-RE	14.2	3.5
	1.5 kW	R88D-KT15H/R88D-KN15H	R88A-FIK114-RE	14.2	3.5
Three-phase 230 VAC	2 kW	R88D-KT20H/R88D-KN20H	R88A-FIK212-RE	12	0.5/25 <sup>1</sup>
	3 kW	R88D-KT30H/R88D-KN30H	R88A-FIK222-RE	22	0.5/25 <sup>1</sup>
	5 kW	R88D-KT50H/R88D-KN50H	R88A-FIK222-RE	22	0.5/25 <sup>1</sup>
Three-phase 460 VAC	600 W	R88D-KT06F/R88D-KN06F	R88A-FIK304-RE	4	0.3/32 <sup>1</sup>
	1 kW	R88D-KT10F/R88D-KN10F	R88A-FIK304-RE	4	0.3/32 <sup>1</sup>
	1.5 kW	R88D-KT15F/R88D-KN15F	R88A-FIK304-RE	4	0.3/32 <sup>1</sup>
	2 kW	R88D-KT20F/R88D-KN20F	R88A-FIK306-RE	6	0.3/32 <sup>1</sup>
	3 kW	R88D-KT50F/R88D-KN30F	R88A-FIK312-RE	12.1	0.3/32 <sup>1</sup>
	5 kW	R88D-KT50F/R88D-KN50F	R88A-FIK312-RE	12.1	0.3/32 <sup>1</sup>

Note: 1. Momentary peak leakage current for the filter at switch-on/off.

### Reactors

MECHATROLINK-II servo drive model	Reactor model
R88D-KNA5L-ML2/-KN01H-ML2	3G3AX-DL2002
R88D-KN01L-ML2/-KN02H-ML2	3G3AX-DL2004
R88D-KN02L-ML2/-KN04H-ML2	3G3AX-DL2007
R88D-KN04L-ML2/-KN08H-ML2/-KN10H-ML2	3G3AX-DL2015
R88D-KN15H-ML2	3G3AX-DL2022
R88D-KN08H-ML2/-KN10H-ML2/-KN15H-ML2/-KN06F-ML2/-KN10F-ML2/-KN15F-ML2	3G3AX-AL2025
R88D-KN20H-ML2/-KN30H-ML2/-KN20F-ML2/-KN30F-ML2	3G3AX-AL2055
R88D-KN50H-ML2/-KN50F-ML2	3G3AX-AL2110

### MECHATROLINK-II Motion controllers

Symbol	Name	Model	
⑩	Trajexia stand-alone motion controller	TJ1-MC04 (4 axes)	
		TJ1-MC16 (16 axes)	
		TJ2-MC64 (64 axes)	
	Trajexia-PLC motion controller	CJ1W-MCH72	
		CJ1W-NCF71 (16 axes)	
	Position Controller Unit for CJ1 PLC	CJ1W-NC471 (4 axes)	
		CJ1W-NC271 (2 axes)	
		Position Controller Unit for CS1 PLC	CS1W-NCF71 (16 axes)
			CS1W-NC471 (4 axes)
			CS1W-NC271 (2 axes)

### External regenerative resistor

Symbol	Regenerative resistor unit model	Specifications
⑪	R88A-RR08050S	50 Ω, 80 W
	R88A-RR080100S	100 Ω, 80 W
	R88A-RR22047S	47 Ω, 220 W
	R88A-RR50020S	20 Ω, 500 W

### Connectors

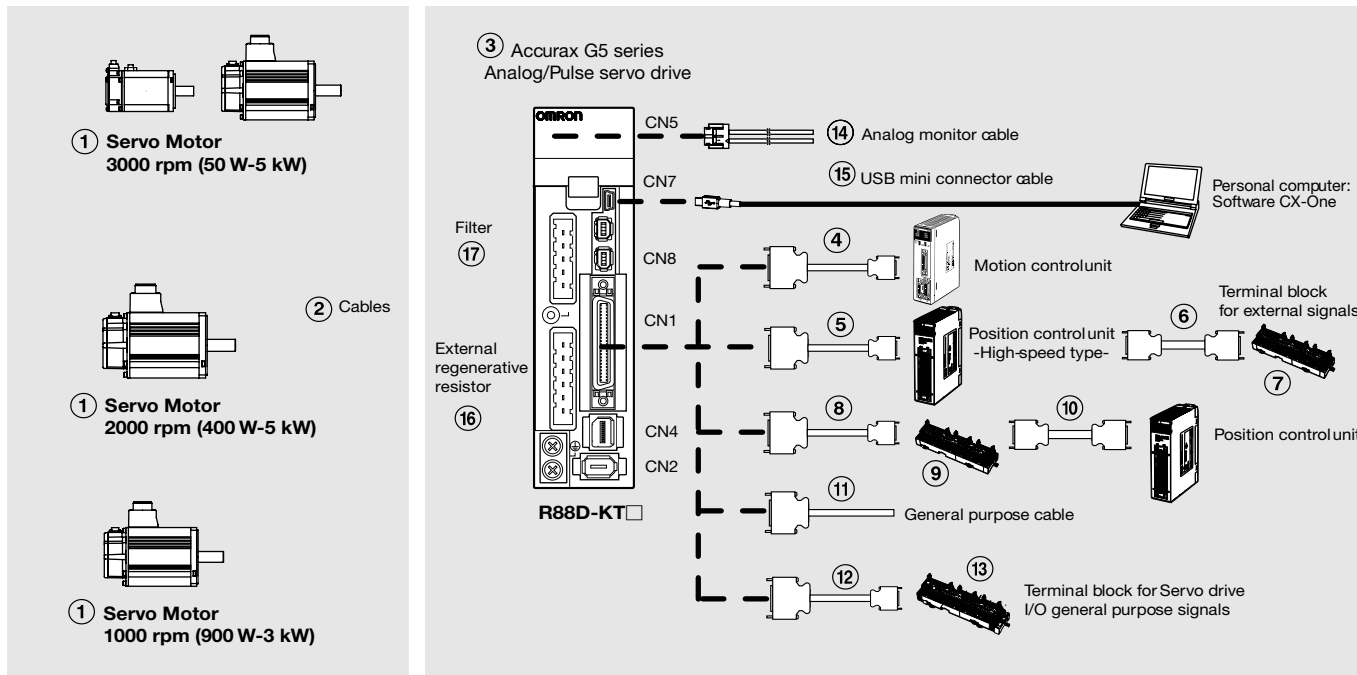
Specifications	Model
External encoder connector (for CN4)	R88A-CNK41L
Safety I/O signal connector (for CN8)	R88A-CNK81S

### Computer software

Specifications	Model
Configuration and monitoring software tool for servo drives and inverters. (CX-drive version 1.91 or higher)	CX-drive

Ordering Information

Accurax G5 series Analog/pulse Reference configuration



Note: The symbols ①②③④⑤... show the recommended sequence to select the components in Accurax G5 servo system

Servo motors, power & encoder cables

Note: ①② Refer to the Accurax G5 servo motor section for servomotor, motor cables or connectors selection

Analog/Pulse Servo Drives

Symbol	Specifications	Servo drive model	Compatible G5 series rotary servo motors ①	
③	1-phase, 120 VAC	50 W	R88D-KTA5L	R88M-K05030(H/T)-□
		100 W	R88D-KT01L	R88M-K10030(L/S)-□
		200 W	R88D-KT02L	R88M-K20030(L/S)-□
		400 W	R88D-KT04L	R88M-K40030(L/S)-□
	1-phase, 230 VAC	100 W	R88D-KT01H	R88M-K05030(H/T)-□ R88M-K10030(H/T)-□
		200 W	R88D-KT02H	R88M-K20030(H/T)-□
		400 W	R88D-KT04H	R88M-K40030(H/T)-□
		750 W	R88D-KT08H	R88M-K75030(H/T)-□
		1 kW	R88D-KT10H	R88M-K1K020(H/T)-□ R88M-K1K030(H/T)-□ R88M-K1K530(H/T)-□ R88M-K1K520(H/T)-□ R88M-K90010(H/T)-□
		1.5 kW	R88D-KT15H	
		3-phase, 230 VAC	2 kW	R88D-KT20H
		3 kW	R88D-KT30H	R88M-K3K030(H/T)-□
		5 kW	R88D-KT50H	R88M-K5K030(H/T)-□
	3-phase, 460 VAC	600 W	R88D-KT06F	R88M-K40020(F/C)-□
				R88M-K60020(F/C)-□
		1 kW	R88D-KT10F	R88M-K75030(F/C)-□
				R88M-K1K020(F/C)-□ R88M-K1K030(F/C)-□
		1.5 kW	R88D-KT15F	R88M-K1K530(F/C)-□
				R88M-K1K520(F/C)-□
				R88M-K90010(F/C)-□
				R88M-K2K030(F/C)-□
		2 kW	R88D-KT20F	R88M-K2K020(F/C)-□
				R88M-K3K030(F/C)-□
		3 kW	R88D-KT30F	R88M-K3K020(F/C)-□
R88M-K2K010(F/C)-□				
R88M-K4K030(F/C)-□				
5 kW		R88D-KT50F	R88M-K5K030(F/C)-□	
			R88M-K4K020(F/C)-□	
			R88M-K5K020(F/C)-□	
	R88M-K3K010(F/C)-□			

Control cables (for CN1)

Symbol	Description	Connect to		Model	
④	Control cable (1 axis)	Motion control units CS1W-MC221 CS1W-MC421	1 m	R88A-CPG001M1	
			2 m	R88A-CPG002M1	
			3 m	R88A-CPG003M1	
			5 m	R88A-CPG005M1	
	Control cable (2 axis)	Motion control units CS1W-MC221 CS1W-MC421	1 m	R88A-CPG001M2	
			2 m	R88A-CPG002M2	
			3 m	R88A-CPG003M2	
			5 m	R88A-CPG005M2	
⑤	Control cable (line-driver output for 1 axis)	Position control units (high-speed type) CJ1W-NC234 CJ1W-NC434	1 m	XW2Z-100J-G9	
			5 m	XW2Z-500J-G9	
			10 m	XW2Z-10MJ-G9	
	Control cable (open-collector output for 1 axis)	Position control units (high-speed type) CJ1W-NC214 CJ1W-NC414	1 m	XW2Z-100J-G13	
			3 m	XW2Z-300J-G13	
	Control cable (line-driver output for 2 axis)	Position control units (high-speed type) CJ1W-NC234 CJ1W-NC434	1 m	XW2Z-100J-G1	
			5 m	XW2Z-500J-G1	
			10 m	XW2Z-10MJ-G1	
	Control cable (open-collector output for 2 axis)	Position control units (high-speed type) CJ1W-NC214 CJ1W-NC414	1 m	XW2Z-100J-G5	
			3 m	XW2Z-300J-G5	
	⑥	Terminal block cable for external signals (for input common, forward/reverse run prohibited inputs, emergency stop input, origin proximity input and interrupt input)	Position control units (high-speed type) CJ1W-NC234 CJ1W-NC434 CJ1W-NC214 CJ1W-NC414	0.5 m	XW2Z-C50X
				1 m	XW2Z-100X
2 m				XW2Z-200X	
3 m				XW2Z-300X	
5 m				XW2Z-500X	
10 m				XW2Z-010X	
⑦				Terminal block for external signals (M3 screw, pin terminals)	
	Terminal block for ext. signals (M3.5 screw, fork/round terminals)		-	XW2B-20G5	
	Terminal block for ext. signals (M3 screw, fork/round terminals)		-	XW2D-20G6	
⑧	Cable from servo relay unit to servo drive	CS1W-NC1□3, CJ1W-NC1□3, C200HW-NC113, CS1W-NC2□3/4□3, CJ1W-NC2□3/4□3, C200HW-NC213/413, CQM1H-PLB21 or CQM1-CPU43	1 m	XW2Z-100J-B25	
			2 m	XW2Z-200J-B25	
			CJ1M-CPU21/22/23	1 m	XW2Z-100J-B31
			2 m	XW2Z-200J-B31	
⑨	Servo relay unit	Position control units CS1W-NC1□3, CJ1W-NC1□3 or C200HW-NC113	-	XW2B-20J6-1B (1 axis)	
		Position control units CS1W-NC2□3/4□3, CJ1W-NC2□3/4□3 or C200HW-NC213/413	-	XW2B-40J6-2B (2 axes)	
		CQM1H-PLB21 or CQM1-CPU43	-	XW2B-20J6-3B (1 axis)	
		CJ1M-CPU21/22/23	-	XW2B-20J6-8A (1 axis) XW2B-40J6-9A (2 axes)	
⑩	Position control unit connecting cable		CQM1H-PLB21	0.5 m	XW2Z-050J-A3
				1 m	XW2Z-100J-A3
			CS1W-NC113 or C200HW-NC113	0.5 m	XW2Z-050J-A6
				1 m	XW2Z-100J-A6
			CS1W-NC213/413 or C200HW-NC213/413	0.5 m	XW2Z-050J-A7
				1 m	XW2Z-100J-A7
			CS1W-NC133	0.5 m	XW2Z-050J-A10
				1 m	XW2Z-100J-A10
			CS1W-NC233/433	0.5 m	XW2Z-050J-A11
				1 m	XW2Z-100J-A11
			CJ1W-NC113	0.5 m	XW2Z-050J-A14
				1 m	XW2Z-100J-A14
			CJ1W-NC213/413	0.5 m	XW2Z-050J-A15
				1 m	XW2Z-100J-A15
			CJ1W-NC133	0.5 m	XW2Z-050J-A18
				1 m	XW2Z-100J-A18
			CJ1W-NC233/433	0.5 m	XW2Z-050J-A19
				1 m	XW2Z-100J-A19
CJ1M-CPU21/22/23	0.5 m	XW2Z-050J-A33			
	1 m	XW2Z-100J-A33			
⑪	General purpose cable	For general purpose controllers	1 m	R88A-CPG001S	
			2 m	R88A-CPG002S	
⑫	Terminal block cable		1 m	XW2Z-100J-B24	
			2 m	XW2Z-200J-B24	
⑬	Terminal block (M3 screw and for pin terminals)	For general purpose controllers	-	XW2B-50G4	
	Terminal block (M3.5 screw and for fork/round terminals)		-	XW2B-50G5	
	Terminal block (M3 screw and for fork/round terminals)		-	XW2D-50G6	

## Ordering Information

### Analog monitor (for CN5)

⑭	Analog monitor cable	1 m	R88A-CMK001S
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### USB personal computer cable (for CN7)

Symbol	Name		Model
⑮	USB mini-connector cable	2 m	3G3AX-CUSBM002-E

### External regenerative resistor

Symbol	Regenerative resistor unit model	Specifications
⑯	R88A-RR08050S	50 Ω, 80 W
	R88A-RR080100S	100 Ω, 80 W
	R88A-RR22047S	47 Ω, 220 W
	R88A-RR50020S	20 Ω, 500 W

### Filters

Specifications	Power	Drive model	Filter model	Rated current (A)	Leakage current (mA)
Single-phase 120 VAC	50 W	R88D-KTA5L/R88D-KNA5L	R88A-FIK102-RE	2.4	3.5
	100 W	R88D-KT01L/R88D-KN01L	R88A-FIK102-RE	2.4	3.5
	200 W	R88D-KT02L/R88D-KN02L	R88A-FIK104-RE	4.1	3.5
	400 W	R88D-KT04L/R88D-KN04L	R88A-FIK107-RE	6.6	3.5
Single-phase 230 VAC	100 W	R88D-KT01H/R88D-KN01H	R88A-FIK102-RE	2.4	3.5
	200 W	R88D-KT02H/R88D-KN02H	R88A-FIK102-RE	2.4	3.5
	400 W	R88D-KT04H/R88D-KN04H	R88A-FIK104-RE	4.1	3.5
	750 W	R88D-KT08H/R88D-KN08H	R88A-FIK107-RE	6.6	3.5
	1 kW	R88D-KT10H/R88D-KN10H	R88A-FIK114-RE	14.2	3.5
	1.5 kW	R88D-KT15H/R88D-KN15H	R88A-FIK114-RE	14.2	3.5
Three-phase 230 VAC	2 kW	R88D-KT20H/R88D-KN20H	R88A-FIK212-RE	12	0.5/25 <sup>1</sup>
	3 kW	R88D-KT30H/R88D-KN30H	R88A-FIK222-RE	22	0.5/25 <sup>1</sup>
	5 kW	R88D-KT50H/R88D-KN50H	R88A-FIK222-RE	22	0.5/25 <sup>1</sup>
Three-phase 460 VAC	600 W	R88D-KT06F/R88D-KN06F	R88A-FIK304-RE	4	0.3/32 <sup>1</sup>
	1 kW	R88D-KT10F/R88D-KN10F	R88A-FIK304-RE	4	0.3/32 <sup>1</sup>
	1.5 kW	R88D-KT15F/R88D-KN15F	R88A-FIK304-RE	4	0.3/32 <sup>1</sup>
	2 kW	R88D-KT20F/R88D-KN20F	R88A-FIK306-RE	6	0.3/32 <sup>1</sup>
	3 kW	R88D-KT50F/R88D-KN30F	R88A-FIK312-RE	12.1	0.3/32 <sup>1</sup>
	5 kW	R88D-KT50F/R88D-KN50F	R88A-FIK312-RE	12.1	0.3/32 <sup>1</sup>

Note: 1. Momentary peak leakage current for the filter at switch-on/off.

### Reactors

Analog/Pulse servo drive model	Reactor model
R88D-KTA5L/-KT01H	3G3AX-DL2002
R88D-KT01L/-KT02H	3G3AX-DL2004
R88D-KT02L/-KT04H	3G3AX-DL2007
R88D-KT04L/-KT08H/-KT10H	3G3AX-DL2015
R88D-KT15H	3G3AX-DL2022
R88D-KT08H/-KT10H/-KT15H	3G3AX-AL2025
R88D-KT20H/-KT30H	3G3AX-AL2055
R88D-KT50H	3G3AX-AL2110

### Connectors

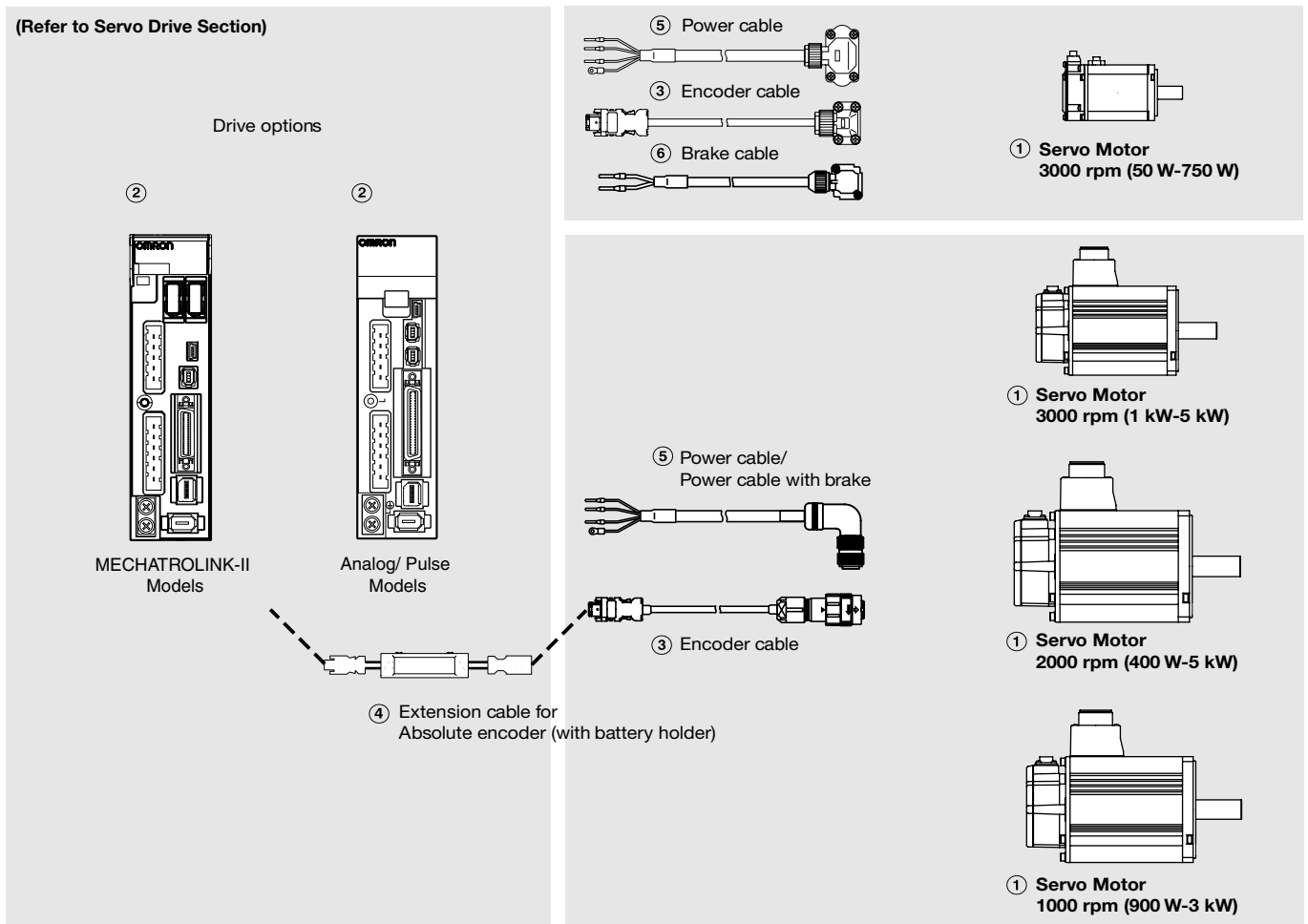
Specifications	Model
I/O connector kit -50 pins-(for CN1)	R88A-CNU11C
External encoder connector (for CN4)	R88A-CNK41L
Safety I/O signal connector (for CN8)	R88A-CNK81S

### Computer software

Specifications	Model
Configuration and monitoring software tool for servo drives and inverters. (CX-drive version 1.90 or higher)	CX-drive

Ordering Information

Encoder, Power and Brake Cables and Connectors



**Note:** The symbols ①②③... show the recommended sequence to select the servo motor and cables

**Servo motor** ① Select motor from R88M-K family using motor tables in next pages.

**Servo drive** ② Refer to Accurax G5 servo drive section for detailed drive specifications and selection of drive accessories.

Encoder cables for absolute and incremental encoders

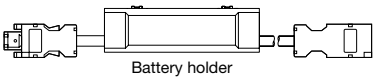
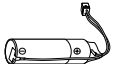
Symbol	Specifications		Model	Appearance
③	Encoder cable for Servomotors [100 V and 200 V] For 3,000-r/min motors of 50 to 750 W	1.5 m	R88A-CRKA001-5CR-E	
		3 m	R88A-CRKA003CR-E	
		5 m	R88A-CRKA005CR-E	
		10 m	R88A-CRKA010CR-E	
		15 m	R88A-CRKA015CR-E	
		20 m	R88A-CRKA020CR-E	
	Encoder cable for Servomotors [100 V and 200 V] For 3,000-r/min motors of 1.0 kW or more For 2,000-r/min motors For 1,000-r/min motors  [400 V] For 3,000-r/min motors For 2,000-r/min motors For 1,000-r/min motors	1.5 m	R88A-CRKC001-5NR-E	
		3 m	R88A-CRKC003NR-E	
		5 m	R88A-CRKC005NR-E	
		10 m	R88A-CRKC010NR-E	
		15 m	R88A-CRKC015NR-E	
		20 m	R88A-CRKC020NR-E	

**Note:** For servomotors fitted with an absolute encoder you have to add the extension battery cable R88A-CRGD0R3C□ (see below) or connect a backup battery in the CN1 I/O connector.

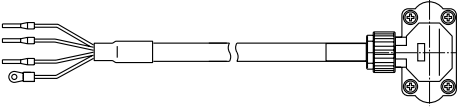
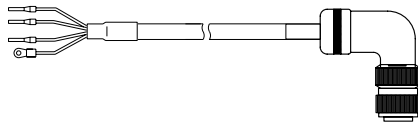
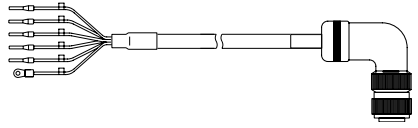
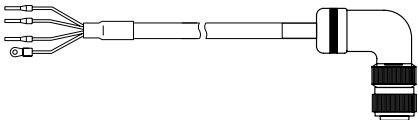
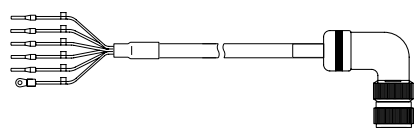
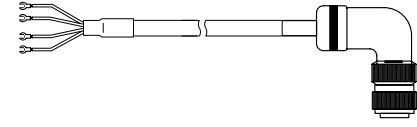
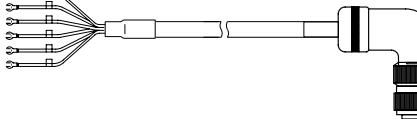
**Note:** Contact Omron for 30, 40 and 50 m long cables.

Ordering Information

Absolute Encoder Battery cable (encoder extension cable only)

Symbol	Specifications			Model	Appearance
④	Absolute Encoder battery cable	Battery not included	0.3 m	R88A-CRGD0R3C	 <p>Battery holder</p>
		Battery included (R88A-BAT01G)	0.3 m	R88A-CRGD0R3C-BS	
	Absolute Encoder backup battery	2,000 mA.h 3.6 V	-	R88A-BAT01GE	

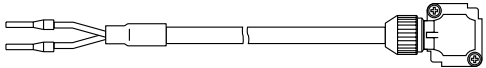
Motor Power Cables

Symbol	Specifications			Model	Appearance
⑤	[100 V and 200 V servomotors] For 3,000-r/min motors of 50 to 750 W  For servomotors with brake, the separate brake cable R88A-CAKA□□□ BR-E is needed.	Power cable only (without brake)	1.5 m	R88A-CAKA001-5SR-E	
			3 m	R88A-CAKA003SR-E	
			5 m	R88A-CAKA005SR-E	
			10 m	R88A-CAKA010SR-E	
			15 m	R88A-CAKA015SR-E	
			20 m	R88A-CAKA020SR-E	
	[200 V servomotors] For 3,000-r/min motors of 1 to 2 kW For 2,000-r/min motors of 1 to 2 kW For 1,000-r/min motors of 900 W	without brake □-S2	1.5 m	R88A-CAGB001-5SR-E	
			3 m	R88A-CAGB003SR-E	
			5 m	R88A-CAGB005SR-E	
			10 m	R88A-CAGB010SR-E	
			15 m	R88A-CAGB015SR-E	
			20 m	R88A-CAGB020SR-E	
	[200 V servomotors] For 3,000-r/min motors of 1 to 2 kW For 2,000-r/min motors of 1 to 2 kW For 1,000-r/min motors of 900 W	with brake □-BS2	1.5 m	R88A-CAGB001-5BR-E	
			3 m	R88A-CAGB003BR-E	
			5 m	R88A-CAGB005BR-E	
			10 m	R88A-CAGB010BR-E	
			15 m	R88A-CAGB015BR-E	
			20 m	R88A-CAGB020BR-E	
	[400 V servomotors] For 3,000-r/min motors of 750 W to 2 kW For 2,000-r/min motors of 400 W to 2 kW For 1,000-r/min motors of 900 W	without brake □-S2	1.5 m	R88A-CAGB001-5SR-E	
			3 m	R88A-CAGB003SR-E	
			5 m	R88A-CAGB005SR-E	
			10 m	R88A-CAGB010SR-E	
			15 m	R88A-CAGB015SR-E	
			20 m	R88A-CAGB020SR-E	
[400 V servomotors] For 3,000-r/min motors of 750 W to 2 kW For 2,000-r/min motors of 400 W to 2 kW For 1,000-r/min motors of 900 W	with brake □-BS2	1.5 m	R88A-CAKF001-5BR-E		
		3 m	R88A-CAKF003BR-E		
		5 m	R88A-CAKF005BR-E		
		10 m	R88A-CAKF010BR-E		
		15 m	R88A-CAKF015BR-E		
		20 m	R88A-CAKF020BR-E		
[200 V and 400 V servomotors] For 3,000-r/min motors of 3 to 5 kW For 2,000-r/min motors of 3 to 5 kW For 1,000-r/min motors of 2 to 3 kW	without brake □-S2	1.5 m	R88A-CAGD001-5SR-E		
		3 m	R88A-CAGD003SR-E		
		5 m	R88A-CAGD005SR-E		
		10 m	R88A-CAGD010SR-E		
		15 m	R88A-CAGD015SR-E		
		20 m	R88A-CAGD020SR-E		
	[200 V and 400 V servomotors] For 3,000-r/min motors of 3 to 5 kW For 2,000-r/min motors of 3 to 5 kW For 1,000-r/min motors of 2 to 3 kW	with brake □-BS2	1.5 m	R88A-CAGD001-5BR-E	
			3 m	R88A-CAGD003BR-E	
			5 m	R88A-CAGD005BR-E	
			10 m	R88A-CAGD010BR-E	
			15 m	R88A-CAGD015BR-E	
			20 m	R88A-CAGD020BR-E	

Note: Contact Omron for 30, 40 and 50 m long cables.

**Ordering Information**

**Brake cable (for 3000 r/min 50-750 W Motors)**

Symbol	Specifications		Model	Appearance
⑥	Brake cable only. For 100 V and 200 V servo motors with brake R88M-K(050/100/200/400/750)30(H/T)-BS2	1.5 m	R88A-CAKA001-5BR-E	
		3 m	R88A-CAKA003BR-E	
		5 m	R88A-CAKA005BR-E	
		10 m	R88A-CAKA010BR-E	
		15 m	R88A-CAKA015BR-E	
		20 m	R88A-CAKA020BR-E	

**Note:** Contact Omron for 30, 40 and 50 m long cables.

Specifications		Applicable Servo motor	Model
Connectors for making encoder cables	Drive side (CN2)	All models	R88A-CNW01R
	Motor side	R88M-K(050/100/200/400/750)30(H/T)□	R88A-CNK02R
	Motor side	R88M-K(1K0/1K5)30(H/T)□ R88M-K(750/1K0/1K5/2K0/3K0/4K0/5K0)30(F/C)□ R88M-K(400/600/1K0/1K5/2K0/3K0/4K0/5K0)20□ R88M-K(900/2K0/3K0)10□	R88A-CNK04R
Connectors for making power cables	Motor side	R88M-K(050/100/200/400/750)30(H/T)□	R88A-CNK11A
	Motor side	R88M-K(1K0/1K5)30(H/T)-S2 R88M-K(1K0/1K5)20(H/T)-S2 R88M-K90010(H/T)-S2 R88M-K(750/1K0/1K5/2K0)30(F/C)-S2, R88M-K(400/600/1K0/1K5/2K0)20(F/C)-S2 R88M-K90010(F/C)-S2	MS3108E20-4S
	Motor side	R88M-K(1K0/1K5)30(H/T)-BS2 R88M-K(1K0/1K5)20(H/T)-BS2 R88M-K90010(H/T)-BS2	MS3108E20-18S
	Motor side	R88M-K(750/1K0/1K5/2K0/3K0/4K0/5K0)30(F/C)-BS2 R88M-K(400/600/1K0/1K5/2K0/3K0/4K0/5K0)20(F/C)-BS2 R88M-K(900/2K0/3K0)10(F/C)-BS2	MS3108E24-11S
	Motor side	R88M-K(3K0/4K0/5K0)30(F/C)-S2 R88M-K(3K0/4K0/5K0)20(F/C)-S2 R88M-K(2K0/3K0)10(F/C)-S2	MS3108E22-22S
	Motor side	R88M-K(050/100/200/400/750)30(H/T)-BS2	R88A-CNK11B

**Note:** 1. All cables listed are flexible and shielded (except the R88A-CAKA□□□-BR-E which is only a flexible cable).  
2. All connectors and cables listed have IP67 class (except R88A-CNW01R connector and R88A-CRGD0R3C cable).

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.



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