

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

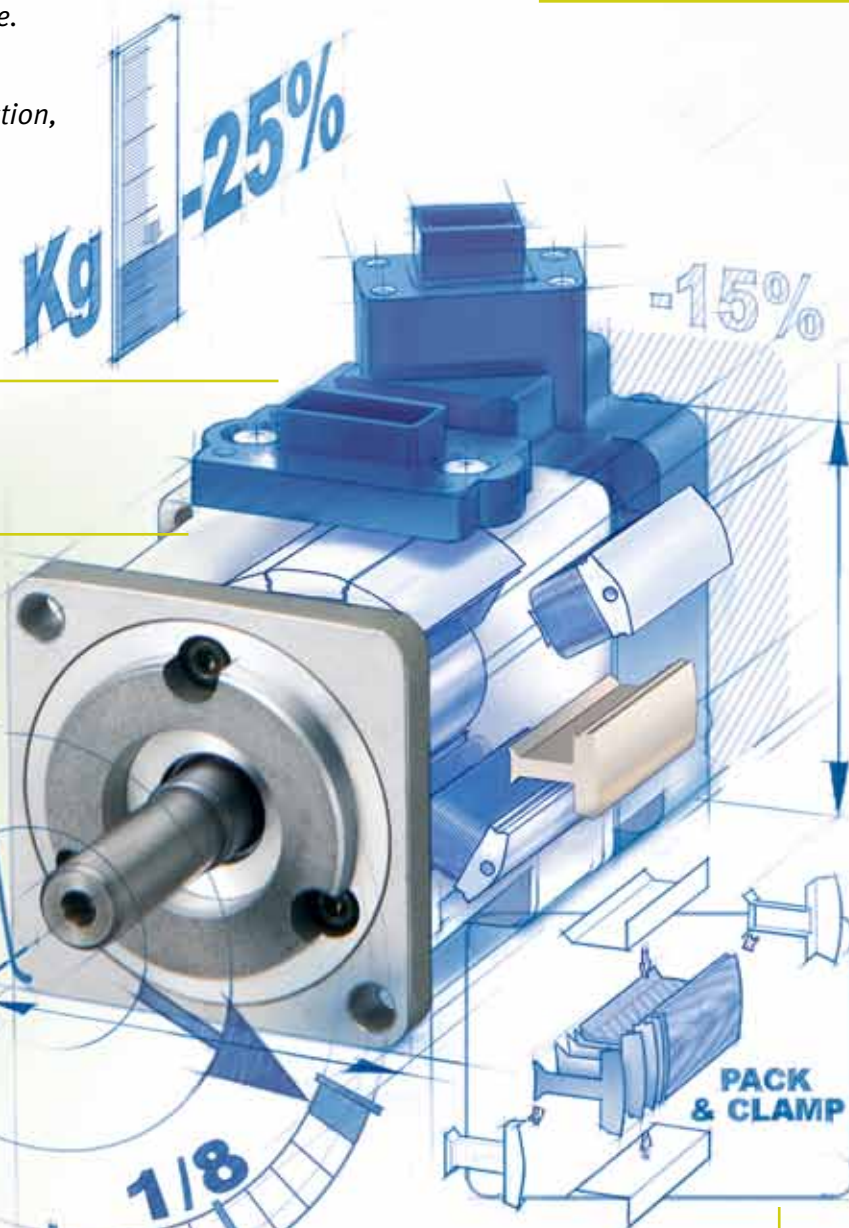
- Use of 10 pole motors
- Improved technology to minimize the encoder non-linear errors

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

JUST CREATE

...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

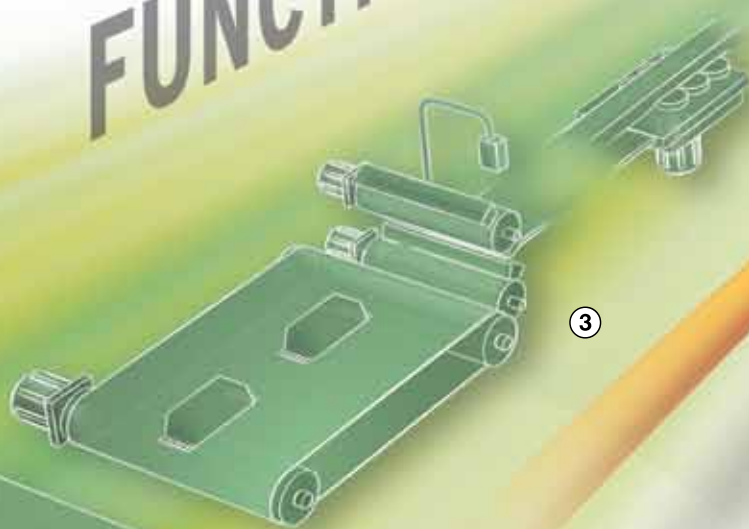
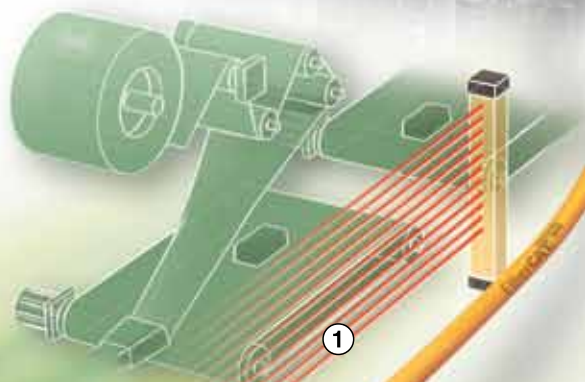
Accurax G5 has a built-in external encoder input for full closed loop operation, for when additional accuracy is required. The external encoder input eliminates the errors caused by, for example, slip in the material.

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



③

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R88D-KN□□□-ML2, R88D-KT□, R88M-K□

Accurax G5 Servo System

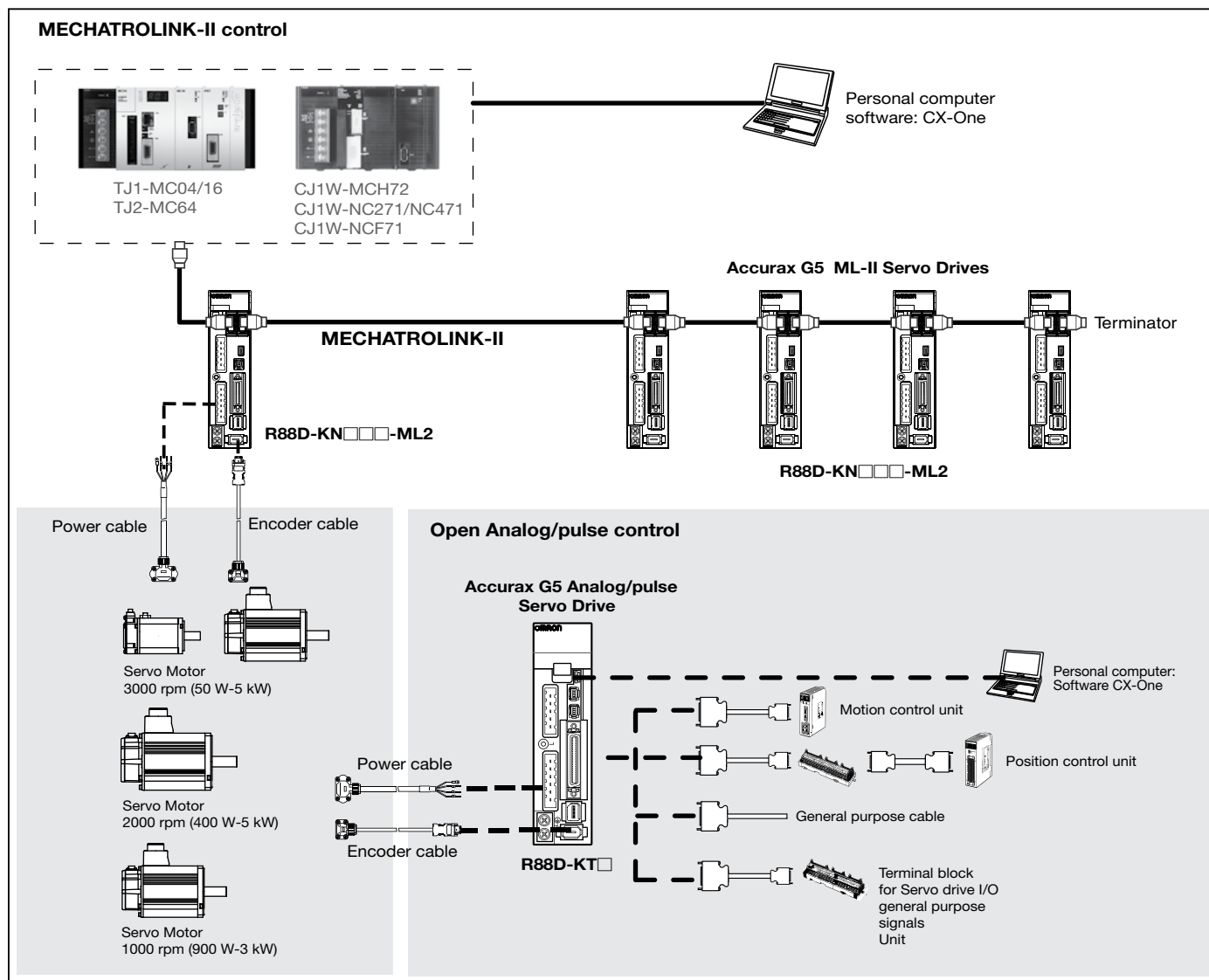
Accurate motion control in a compact size servo drive family. MECHATROLINK-II motion bus and safety built-in.

- 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
	30H	3 kW
460 V	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

Rotary Servo Motor						Servo Drive with MECHATROLINK-II models			
Appearance	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	—			
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	—			
	400 V	3000 rpm	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	
			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

Rotary Servo Motor						Servo Drive with Analog/Pulse Output models		
Appearance	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	–
			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
	400 V	3000 rpm	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
			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	–
	230 V	2000 rpm	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	–
			1.91 N•m	400 W	R88M-K40020(F/C)-□	–	–	R88D-KT06F
			2.86 N•m	600 W	R88M-K60020(F/C)-□	–	–	R88D-KT06F
	400 V	2000 rpm	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

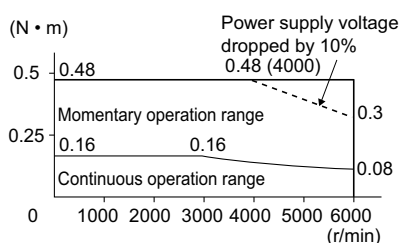
Servo Motor Specifications

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

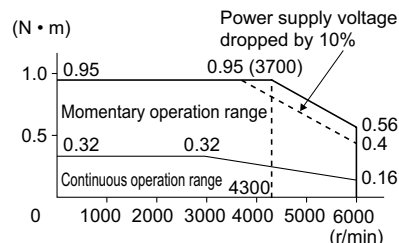
Voltage		Single-phase, 120 V				
Applicable servo motor R88M-K□	20-bit incremental encoder	05030H-□	10030L-□	20030L-□	40030L-□	
	17-bit absolute encoder	05030T-□	10030S-□	20030S-□	40030S-□	
Rated output	W	50	100	200	400	
Rated torque	N•m	0.16	0.32	0.64	1.3	
Instantaneous peak torque	N•m	0.48	0.95	1.91	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 ² ×10 ⁻⁴ (without brake)	0.025	0.051	0.14	0.26	
	kg•m ² ×10 ⁻⁴ (with brake)	0.027	0.054	0.16	0.28	
Allowable load moment of inertia (JL)		Multiple of (JM)				
Rated power rate	30 times the rotor inertia max.					
	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 ² ×10 ⁻⁴	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 ²			
Mounting		Flange-mounted				

Torque-speed characteristics using 100 VAC

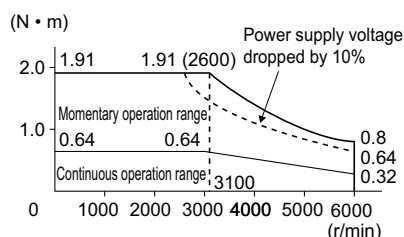
R88M-K05030(H/T)-□ (50 W)



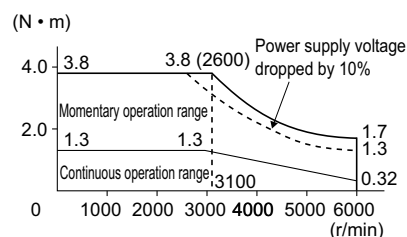
R88M-K10030(L/S)-□ (100 W)



R88M-K20030(L/S)-□ (200 W)



R88M-K40030(L/S)-□ (400 W)

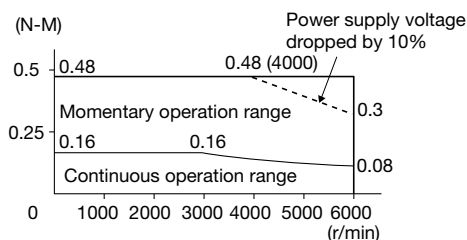


Servo motors 3000 r/min, single-phase 230 V

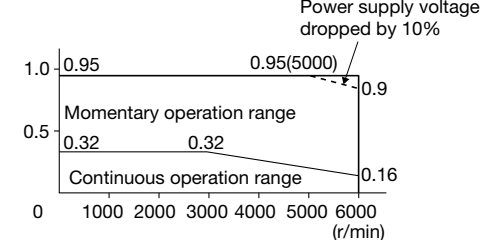
Voltage			230 V							
Servo motor model R88M-K□		20-bit incremental encoder	05030H-□	10030H-□	20030H-□	40030H-□	75030H-□	1K030H-□	1K530H-□	
		17-bit absolute encoder	05030T-□	10030T-□	20030T-□	40030T-□	75030T-□	1K030T-□	1K530T-□	
Rated output		W	50	100	200	400	750	1000	1500	
Rated torque		N•m	0.16	0.32	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•m²×10 ⁻⁴ (without brake)	0.025	0.051	0.14	0.26	0.87	2.03	2.84	
		kg•m²×10 ⁻⁴ (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	15		
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•m²×10 ⁻⁴	0.002			0.0018		0.33	
	Power consumption (at 20°C)		W	7			9		17	19
	Current consumption (at 20°C)		A	0.3			0.36		0.70±10%	0.81±10%
	Static friction torque		N•m (minimum)	0.29			1.27		2.5	7.8
	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/s²							
	Mounting		Flange-mounted							

Torque-speed characteristics using 200 VAC

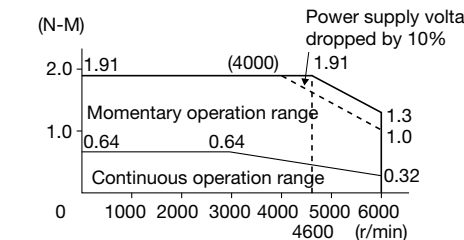
R88M-K05030H/T (50 W)



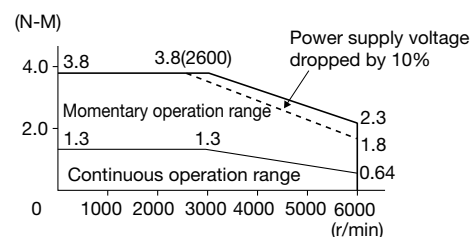
R88M-K10030H/T (100 W)



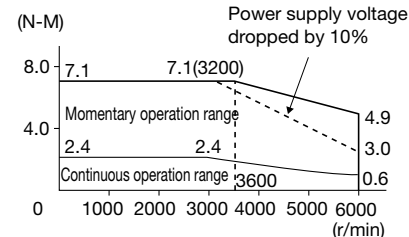
R88M-K20030H/T (200 W)



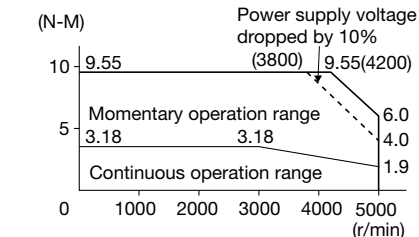
R88M-K40030H/T (400 W)



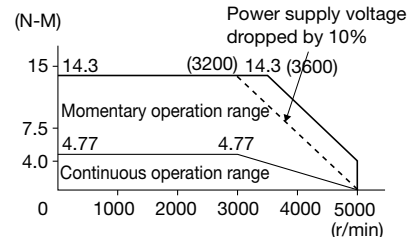
R88M-K75030H/T (750 W)



R88M-K1K030H/T (1 kW)



R88M-K1K530H/T (1.5 kW)



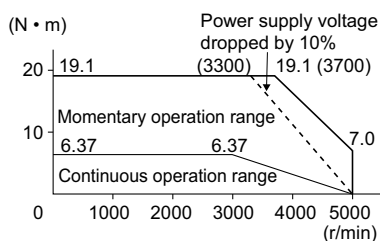
Servo Motor Specifications

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

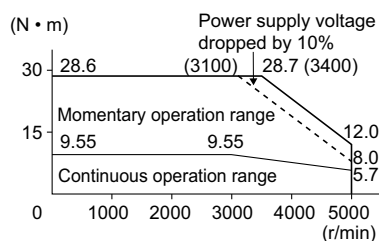
Voltage		Three-phase, 230 V			
Applicable servo motor R88M-□	20-bit incremental encoder	K2K030H-□	K3K030H-□	K4K030H-□	K5K030H-□
	17-bit absolute encoder	K2K030T-□	K3K030T-□	K4K030T-□	K5K030T-□
Rated output	kW	2	3	4	5
Rated torque	N•m	6.37	9.55	12.7	15.9
Instantaneous peak torque	N•m	19.1	28.6	38.2	47.7
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 ² ×10 ⁻⁴ (without brake)	3.68	6.5	12.9	17.4
	kg•m ² ×10 ⁻⁴ (with brake)	4.01	7.85	14.2	18.6
Allowable load moment of inertia (JL)	Multiples 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 ² ×10 ⁻⁴	0.33	0.33	1.35
	Power consumption (at 20°C)	W	19	19	22
	Current consumption (at 20°C)	A	0.81±10%	0.81±10%	0.90±10%
	Static friction torque	N•m (minimum)	7.8	11.8	16.1
	Rise time for holding torque	ms (max.)	50	80	110
	Release time	ms (max.)	15	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 and motor and encoder pins)			
	Vibration resistance	Vibration acceleration 49 m/s ²			
	Mounting	Flange-mounted			

Torque-speed characteristics using 200 VAC

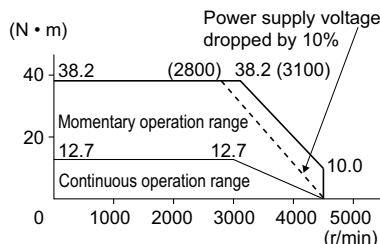
R88M-K2K030(H/T)-□ (2 kW)



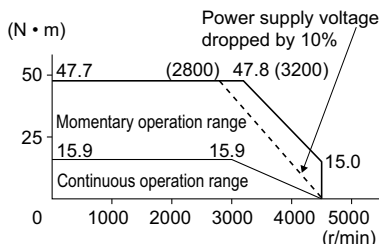
R88M-K3K030(H/T)-□ (3 kW)



R88M-K4K030(H/T)-□ (4 kW)



R88M-K5K030(H/T)-□ (5 kW)

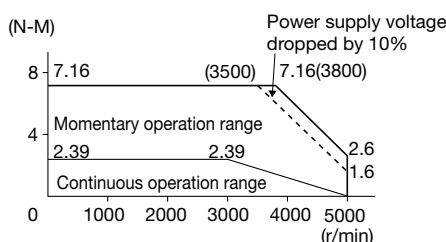


Servo motors 3000 r/min, 400 V

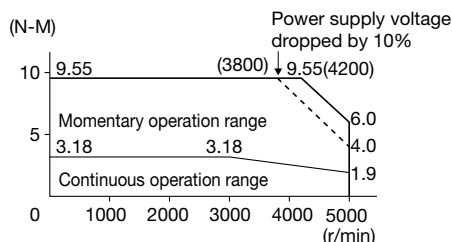
Voltage		400 V								
Servo motor model R88M-K□		20-bit incremental encoder	75030F-□	1K030F-□	1K530F-□	2K030F-□	3K030F-□	4K030F-□	5K030F-□	
		17-bit absolute encoder	75030C-□	1K030C-□	1K530C-□	2K030C-□	3K030C-□	4K030C-□	5K030C-□	
Rated output		W	750	1000	1500	2000	3000	4000	5000	
Rated torque		N•m	2.39	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•m²x10 ⁻⁴ (without brake)	1.61	2.03	2.84	3.68	6.5	12.9	17.4	
		kg•m²x10 ⁻⁴ (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•m²x10 ⁻⁴	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	16.1
	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/s²							
Mounting		Flange-mounted								

Torque-speed characteristics using 400 VAC

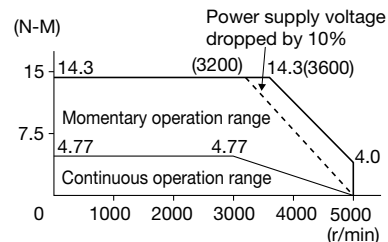
R88M-K75030F/C (750 W)



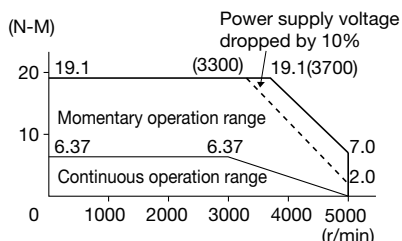
R88M-K1K030F/C (1 kW)



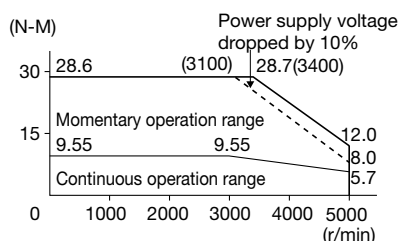
R88M-K1K530F/C (1.5 kW)



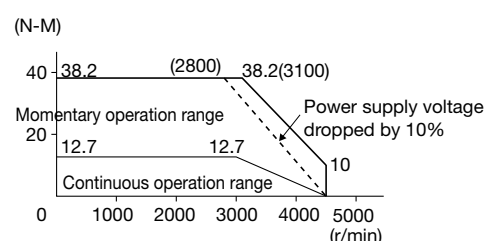
R88M-K2K030F/C (2 kW)



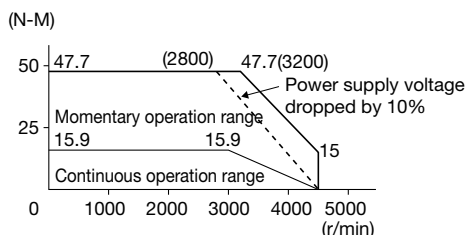
R88M-K3K030F/C (3 kW)



R88M-K4K030F/C (4 kW)



R88M-K5K030F/C (5 kW)



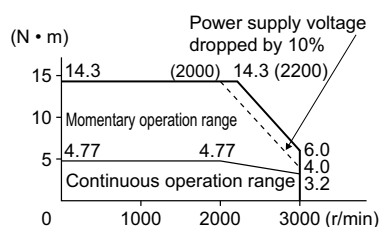
Servo Motor Specifications

Servo motors 2000 r/min, 230 V

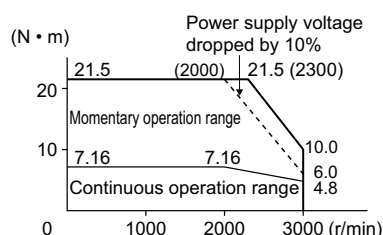
Voltage		230 V					
Applicable servo motor R88M-□	20-bit incremental encoder	K1K020H-□	K1K520H-□	K2K020H-□	K3K020H-□	K4K020H-□	K5K020H-□
	17-bit absolute encoder	K1K020T-□	K1K520T-□	K2K020T-□	K3K020T-□	K4K020T-□	K5K020T-□
Rated output	kW	1	1.5	2	3	4	5
Rated torque	N•m	4.77	7.16	9.55	14.3	19.1	23.9
Instantaneous 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 ² ×10 ⁻⁴ (without brake)	4.6	6.7	8.72	12.9	37.6	48
	kg•m ² ×10 ⁻⁴ (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 ² ×10 ⁻⁴	1.35	1.35	1.35	1.35	4.7
	Power consumption (at 20°C)	W	14	19	19	22	31
	Current consumption (at 20°C)	A	0.59±10%	0.79±10%	0.79±10%	0.90±10%	1.3±10%
	Static friction torque	N•m (minimum)	4.9	13.7	13.7	16.2	24.5
	Rise time for holding torque	ms (max.)	80	100	100	110	80
	Release time	ms (max.)	70	50	50	50	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 ²					
	Mounting	Flange-mounted					

Torque-speed characteristics using 200 VAC

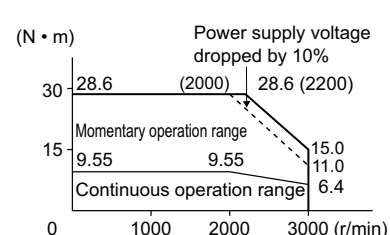
R88M-K1K020(H/T)-□ (1 kW)



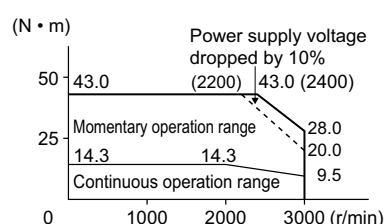
R88M-K1K520(H/T)-□ (1.5 kW)



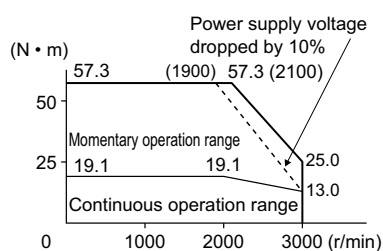
R88M-K2K020(H/T)-□ (2 kW)



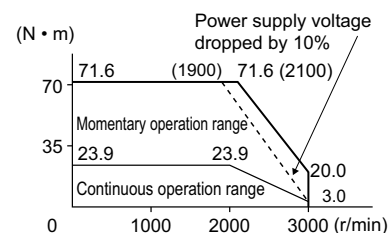
R88M-K3K020(H/T)-□ (3 kW)



R88M-K4K020(H/T)-□ (4 kW)



R88M-K5K020(H/T)-□ (5 kW)

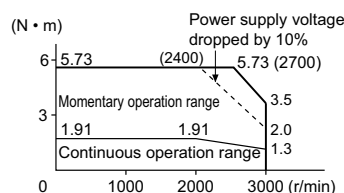


Servo motors 2000 r/min, 400 V

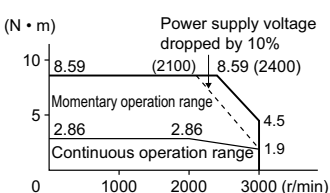
Voltage		400 V							
Applicable servo motor R88M-□	20-bit incremental encoder	40020F-□	60020F-□	K1K020F-□	K1K520F-□	K2K020F-□	K3K020F-□	K4K020F-□	K5K020F-□
	17-bit absolute encoder	40020C-□	60020C-□	K1K020C-□	K1K520C-□	K2K020C-□	K3K020C-□	K4K020C-□	K5K020C-□
Rated output	kW	0.4	0.6	1	1.5	2	3	4	5
Rated 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 ² ×10 ⁻⁴ (without brake)	1.61	2.03	4.6	6.7	8.72	12.9	37.6	48
	kg•m ² ×10 ⁻⁴ (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 ² ×10 ⁻⁴	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
	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%
	Static friction torque	N•m (minimum)	2.5	2.5	4.9	13.7	13.7	16.2	24.5
	Rise time for holding torque	ms (max.)	50	50	80	100	100	110	80
	Release time	ms (max.)	15	15	70	50	50	50	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 ²							
	Mounting	Flange-mounted							

Torque-speed characteristics using 400 VAC

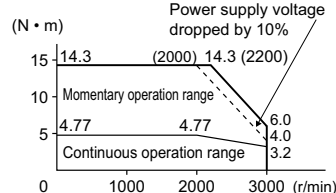
R88M-K40020F/C
(400V, 400 W)



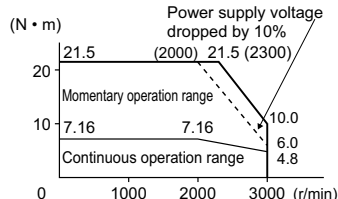
R88M-K60020F/C
(400V, 600 W)



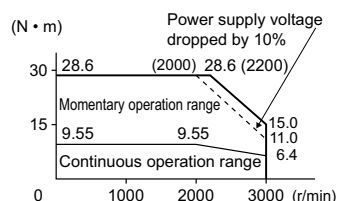
R88M-K1K020F/C
(400V, 1 kW)



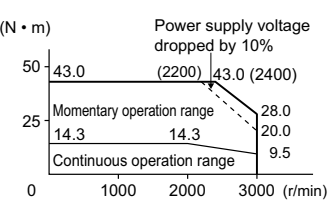
R88M-K1K520F/C
(400V, 1.5 kW)



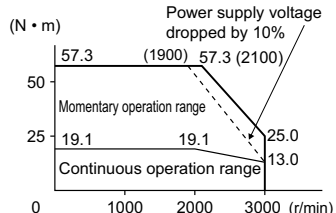
R88M-K2K020F/C
(400V, 2 kW)



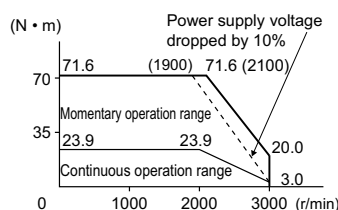
R88M-K3K0F/C
(400V, 3 kW)



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



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



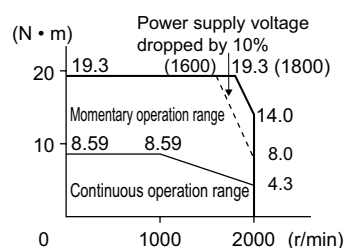
Servo Motor Specifications

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

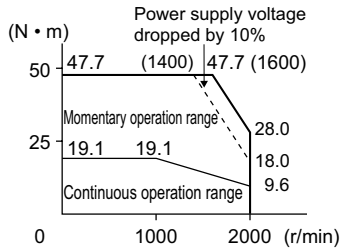
Voltage		230 V			400 V		
Applicable servo motor R88M-□	20-bit incremental encoder	K90010H-□	K2K010H-□	K3K010H-□	K90010F-□	K2K010F-□	K3K010F-□
	17-bit absolute encoder	K90010T-□	K2K010T-□	K3K010T-□	K90010C-□	K2K010C-□	K3K010C-□
Rated output	kW	0.9	2	3	0.9	2	3
Rated torque	N•m	8.59	19.1	28.7	8.59	19.1	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 ² ×10 ⁻⁴ (without brake)	6.7	30.3	48.4	6.7	30.3	48.4
	kg•m ² ×10 ⁻⁴ (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 ² ×10 ⁻⁴	1.35	4.7	4.7	1.35	4.7
	Power consumption (at 20°C)	W	19	31	34	19	31
	Current consumption (at 20°C)	A	0.79±10%	1.3±10%	1.4±10%	0.79±10%	1.3±10%
	Static friction torque	N•m (minimum)	13.7	24.5	58.8	13.7	24.5
	Rise time for holding torque	ms (max.)	100	80	150	100	80
	Release time	ms (max.)	50	25	50	50	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 ²					
	Mounting	Flange-mounted					

Torque-speed characteristics using 200 VAC and 400 VAC

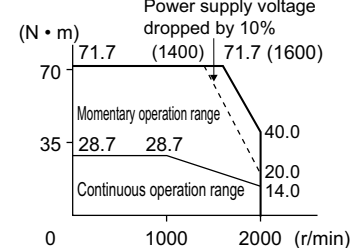
R88M-K90010(H/T/F/C)-□ (900 W)



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 ² 10-60 Hz (Continuous operation at resonance point is not allowed) / 19.6 m/s ²			
	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 ² 10-60 Hz (Continuous operation at resonance point is not allowed) / 19.6 m/s ²					
	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 ² 10-60 Hz (Continuous operation at resonance point is not allowed) / 19.6 m/s ²		
	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)-□
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 ² 10-60 Hz (Continuous operation at resonance point is not allowed) / 19.6 m/s ²					
	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		MECHATROLINK-II commands (for sequence, motion, data setting/reference, monitor, adjustment and other commands).
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 ouput, 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.	

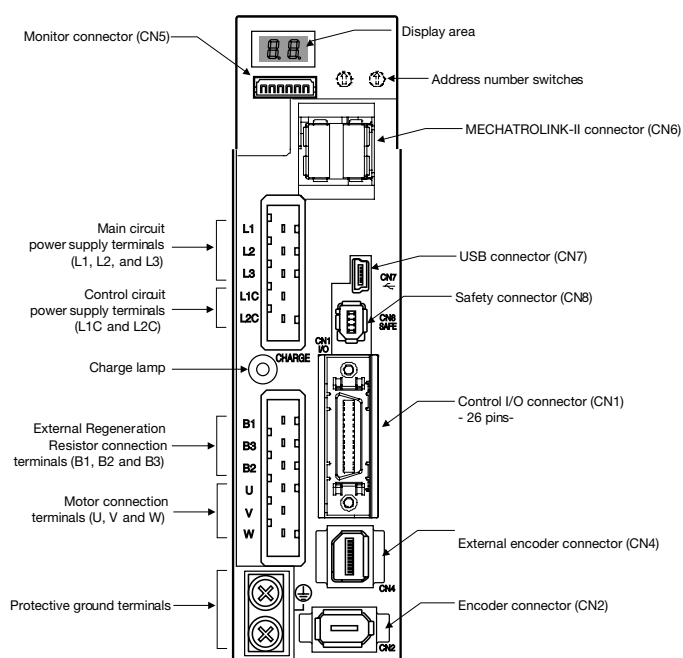
Servo Drive Specifications

General specifications (for analog/pulse servo drives)

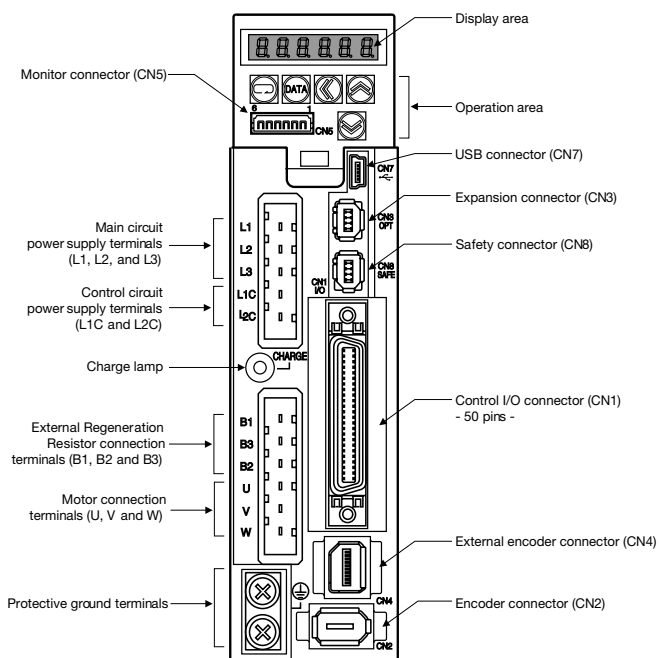
Control mode			7 modes selectable by parameter: (1) position control, (2) velocity control, (3) torque control, (4) position/velocity control, (5) position/torque control, (6) velocity/torque control and (7) full-closed control.	
Speed/ torque control	Performance		Frequency characteristics	2 kHz
			Speed 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).
			Speed limit	Speed limit can be set by parameter.
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 scaling (Electronic Gear)	Applicable scaling ratio: 1/1000 - 1000 Any value of 1-20 ³⁰ 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.
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 ³⁰ 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 ³⁰ 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



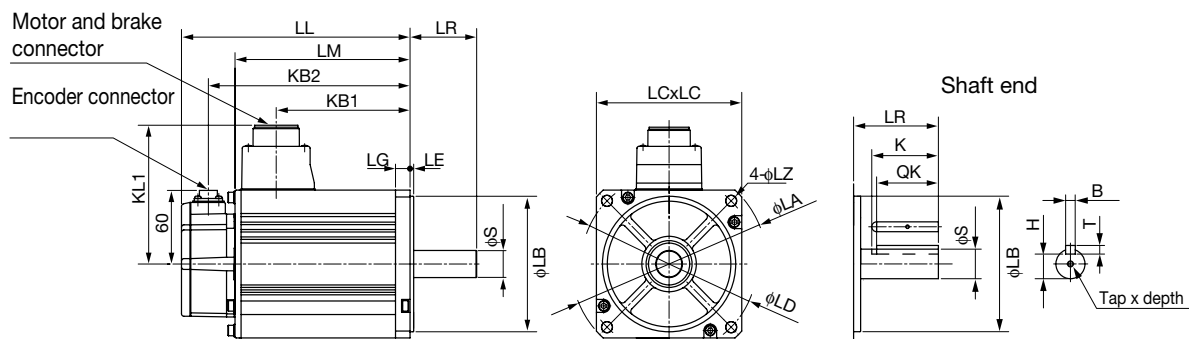
Note: The above pictures show 230 V servo drives models only. The 460 V servo drives have DC power input terminals for control circuit instead of L1C and L2C terminals.

Unit: mm

Dimensions

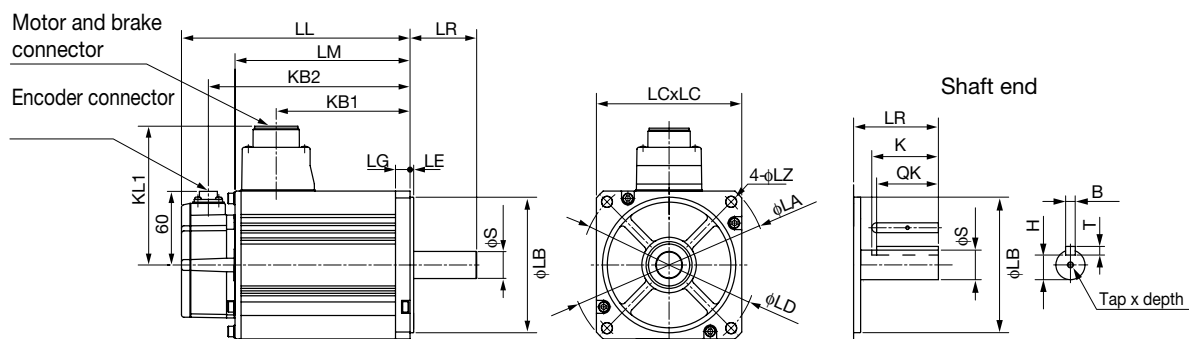
SERVO MOTORS

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



Model	Without brake					With brake					Flange surface								Shaft End Dimensions							Approx. Weight (kg)	
R88M-K□	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
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 ^{h7}	100	115	3	10	9	19 ^{h6}	M5 x 12L	45	42	15.5	6 ^{h9}	6	3.1	4.1
1K030(F/C)-□S2	141	97	66	119	101	168	124	66	146	101	55	135	95 ^{h7}	100	115	3	10	9	19 ^{h6}	M5 x 12L	45	42	15.5	6 ^{h9}	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 ^{h7}	100	115	3	10	9	19 ^{h6}	M5 x 12L	45	42	15.5	6 ^{h9}	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 ^{h7}	100	115	3	10	9	19 ^{h6}	M5 x 12L	45	42	15.5	6 ^{h9}	6	5.3	6.3
3K030(F/C)-□S2	190	146	112	168	113	215	171	112	193	113	55	162	110 ^{h7}	120	145	3	12	9	22 ^{h6}	M5 x 12L	45	41	18	8 ^{h9}	7	8.3	9.4
4K030(F/C)-□S2	208	164	127	186	118	233	189	127	211	118	65	145	110 ^{h7}	130	165	6	12	9	24 ^{h6}	M8 x 20L	55	51	20	8 ^{h9}	7	11.0	12.6
5K030(F/C)-□S2	243	199	162	221	118	268	224	162	246	118	65	145	110 ^{h7}	130	165	6	12	9	24 ^{h6}	M8 x 20L	55	51	20	8 ^{h9}	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)	
R88M-K□	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
1K020(H/T)-□S2	138	94	60	116	116	163	119	60	141	116	55	145	110 ^{h7}	130	165	6	12	9	22 ^{h6}	M5 x 12L	45	41	18	8 ^{h9}	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 ^{h7}	130	165	6	12	9	22 ^{h6}	M5 x 12L	45	41	18	8 ^{h9}	7	6.7	8.2
2K020(H/T)-□S2	173	129	95	151	116	198	154	95	176	116	55	145	110 ^{h7}	130	165	6	12	9	22 ^{h6}	M5 x 12L	45	41	18	8 ^{h9}	7	8.0	9.5
3K020(H/T)-□S2	208	164	127	186	118	233	189	127	211	118	65	145	110 ^{h7}	130	165	6	12	9	24 ^{h6}	M8 x 20L	55	51	20	8 ^{h9}	7	11.0	12.6
4K020(H/T)-□S2	177	133	96	155	140	202	158	96	180	140	70	233	114.3 ^{h7}	176	200	3.2	18	13.5	35 ^{h6}	M12 x 25L	55	50	30	10 ^{h9}	8	15.5	18.7
5K020(H/T)-□S2	202	158	96	180	140	221	177	115	199	140	70	233	114.3 ^{h7}	176	200	3.2	18	13.5	35 ^{h6}	M12 x 25L	55	51	30	10 ^{h9}	8	18.6	21.8

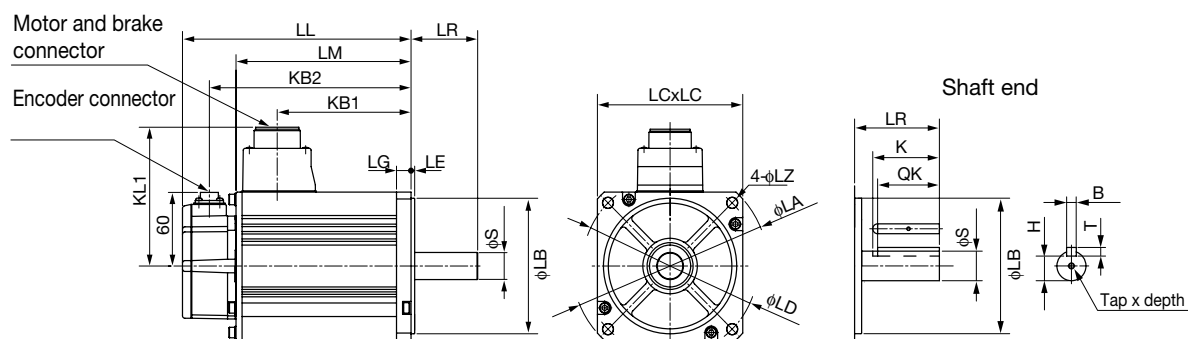
400 V, 400 W - 5 kW

Model	Without brake					With brake					Flange surface								Shaft End Dimensions							Approx. Weight (kg)	
R88M-K□	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
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 ^{h7}	100	115	3	10	9	19 ^{h6}	M5 x 12L	45	42	15.5	6 ^{h9}	6	3.1	4.1
60020(F/C)□S2	141	97	66	119	101	168	124	63	146	103	55	135	95 ^{h7}	100	115	3	10	9	19 ^{h6}	M5 x 12L	45	42	15.5	6 ^{h9}	6	3.5	4.5
1K020(F/C)□S2	138	94	60	116	116	163	119	60	141	116	55	145	110 ^{h7}	130	165	6	12	9	22 ^{h6}	M5 x 12L	45	41	18	8 ^{h9}	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 ^{h7}	130	165	6	12	9	22 ^{h6}	M5 x 12L	45	41	18	8 ^{h9}	7	6.7	8.2
2K020(F/C)□S2	173	129	95	151	116	198	154	95	176	116	55	145	110 ^{h7}	130	165	6	12	9	22 ^{h6}	M5 x 12L	45	41	18	8 ^{h9}	7	8.0	9.5
3K020(F/C)□S2	208	164	127	186	118	233	189	127	211	118	65	145	110 ^{h7}	130	165	6	12	9	24 ^{h6}	M8 x 20L	55	51	20	8 ^{h9}	7	11.0	12.6
4K020(F/C)□S2	177	133	96	155	140	202	158	96	180	140	70	233	114.3 ^{h7}	176	200	3.2	18	13.5	35 ^{h6}	M12 x 25L	55	50	30	10 ^{h9}	8	15.5	18.7
5K020(F/C)□S2	202	158	96	180	140	221	177	115	199	140	70	233	114.3 ^{h7}	176	200	3.2	18	13.5	35 ^{h6}	M12 x 25L	55	51	30	10 ^{h9}	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)	
R88M-K□	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 ^{h7}	130	145	6	12	9	22 ^{h6}	M5 x 12L	45	41	18	8 ^{h9}	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 ^{h7}	176	200	3.2	18	13.5	35 ^{h6}	M12 x 25L	55	50	30	10 ^{h9}	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 ^{h7}	176	200	3.2	18	13.5	35 ^{h6}	M12 x 25L	55	50	30	10 ^{h9}	8	17.5	23.5

400 V, 900 W - 3 kW

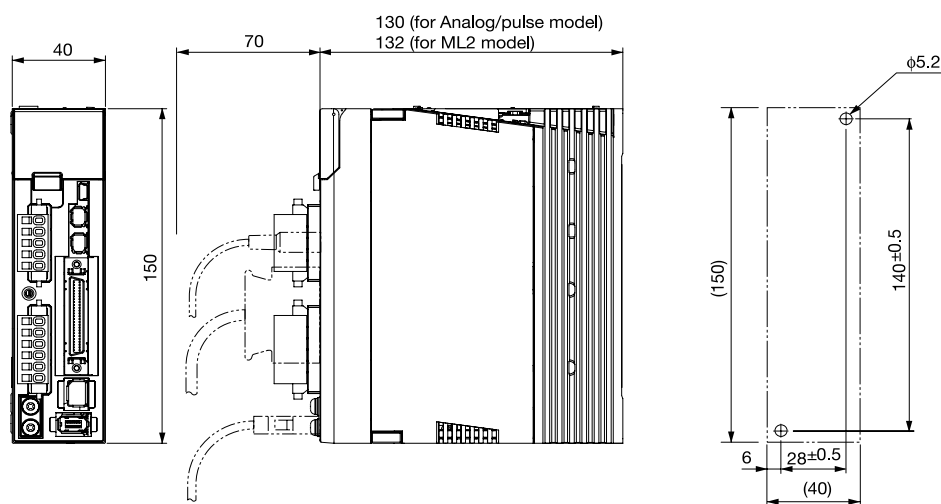
Model	Without brake					With brake					Flange surface								Shaft End Dimensions							Approx. Weight (kg)	
R88M-K□	LL	LM	KB1	KB2	KL1	LL	LM	KB1	KB2	KL1	LR	LA	LB	LC	LD	LE	LG	LZ	S	Tap x Depth	K	QK	H	B	T	Without brake	With brake
90010(F/C)-□S2	155.5	111.5	77.5	133.5	116	180.5	136.5	74.5	158.5	118	55	165	110 ^{h7}	130	145	6	12	9	22 ^{h6}	M5 x 10L	45	41	18	8 ^{h9}	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 ^{h7}	176	200	3.2	18	13.5	35 ^{h6}	M12 x 25L	55	50	30	10 ^{h9}	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 ^{h7}	176	200	3.2	18	13.5	35 ^{h6}	M12 x 25L	55	50	30	10 ^{h9}	8	20	23.5

Dimensions

SERVO DRIVES

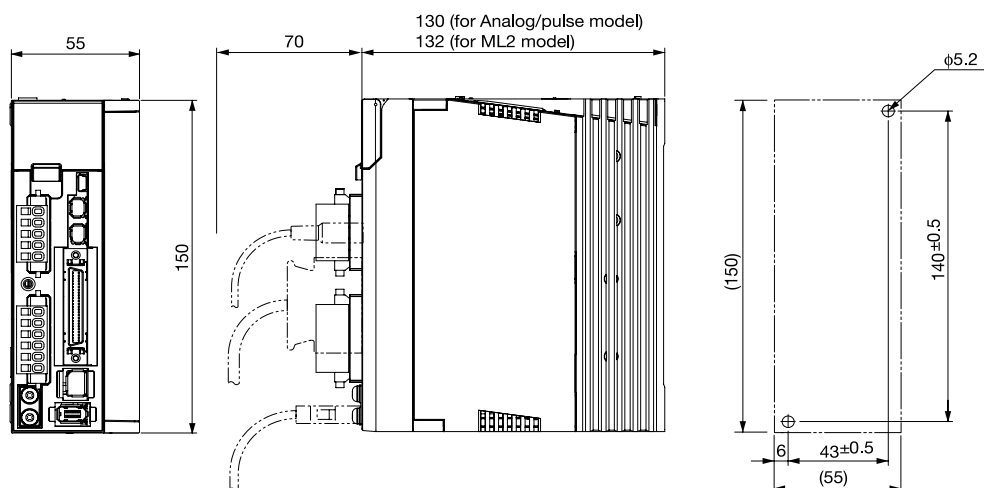
Single-phase 120 VAC: R88D-KNA5L-ML2/-KN01L-ML2/-KTA5L/-KT01L (50 to 100 W)

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



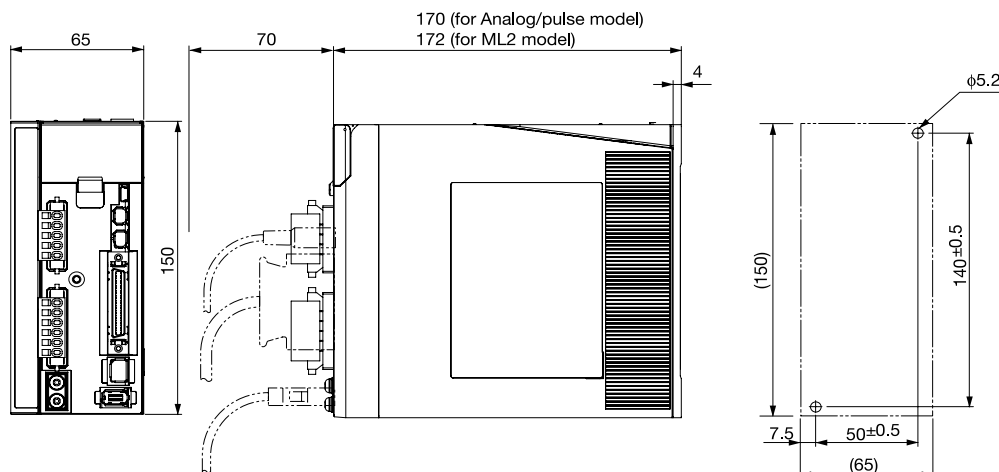
Single-phase/3-phase 120 VAC: R88D-KN02L-ML2/R88D-KT02L (200 W)

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)

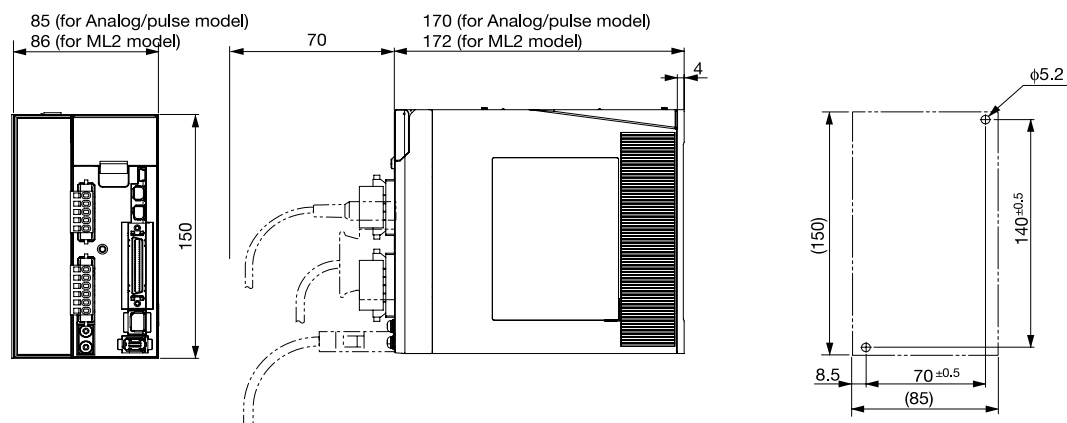
Single-phase/3-phase 230 VAC: R88D-KN08H-ML2/R88D-KT08H (750 W)



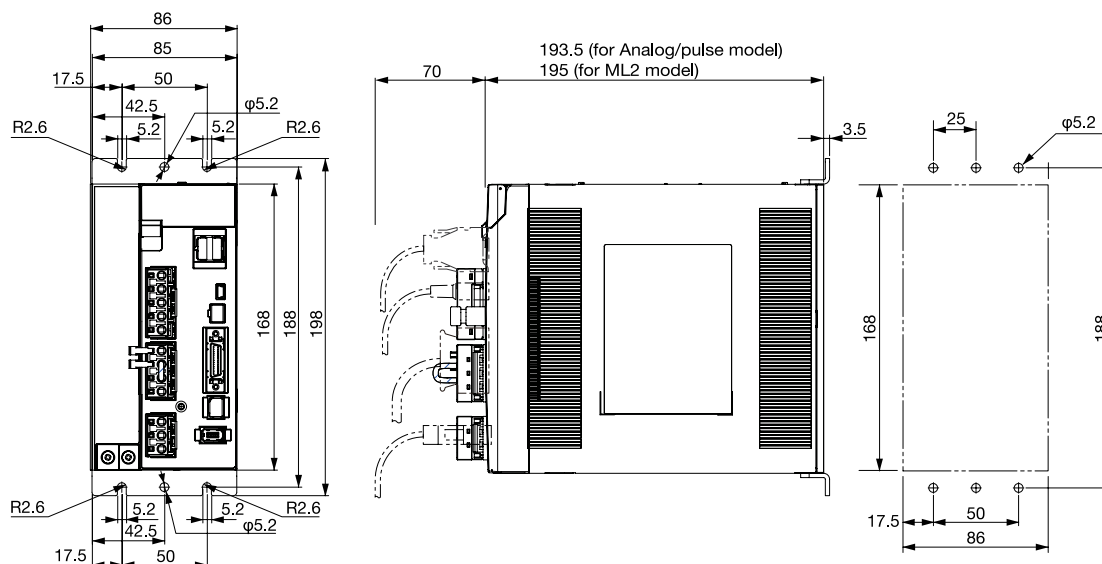
Dimensions

SERVO DRIVES

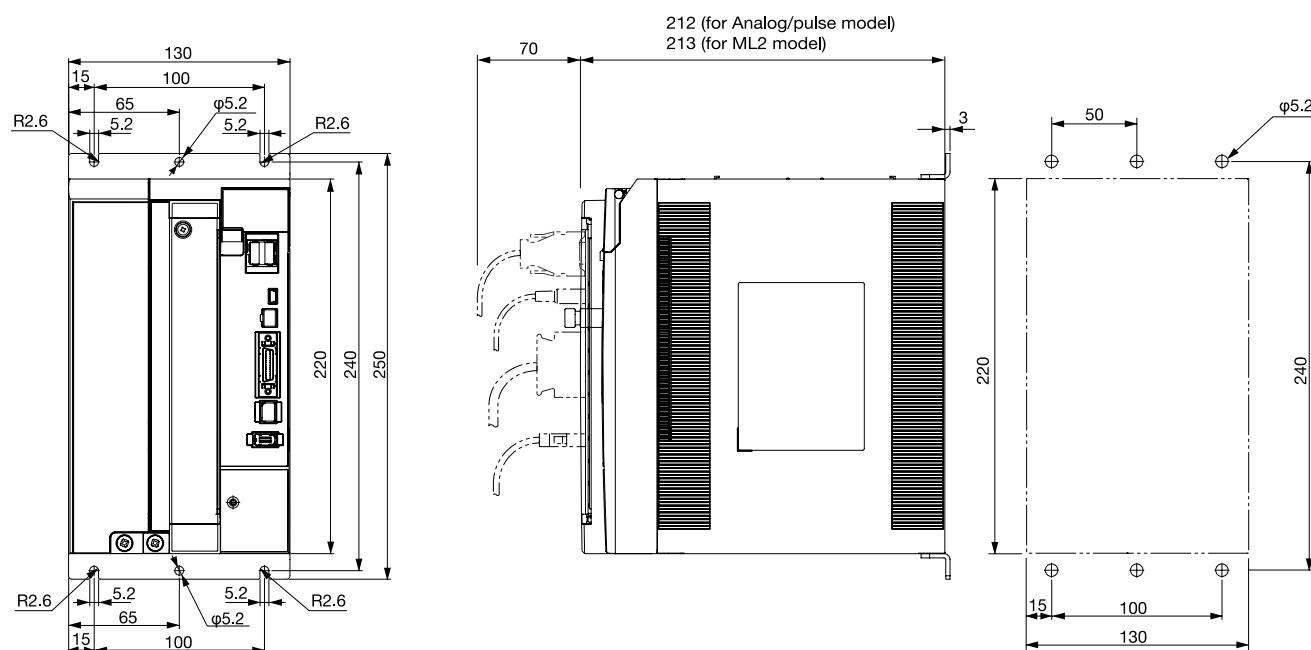
Single-phase/3-phase 230 VAC: R88D-KN10H-ML2/-KN15H-ML2/R88D-KT10H/-KT15H (900 W to 1.5 kW)



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)

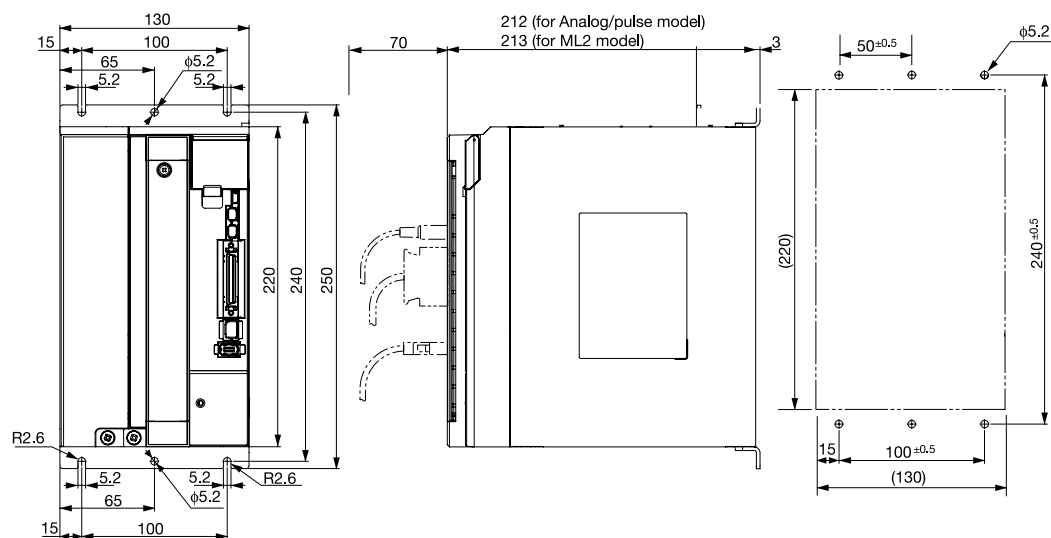


SERVO DRIVES

Dimensions

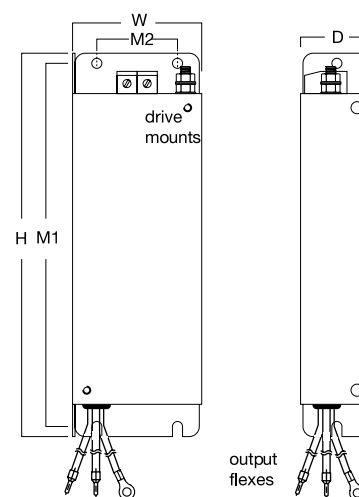
SERVO DRIVES

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



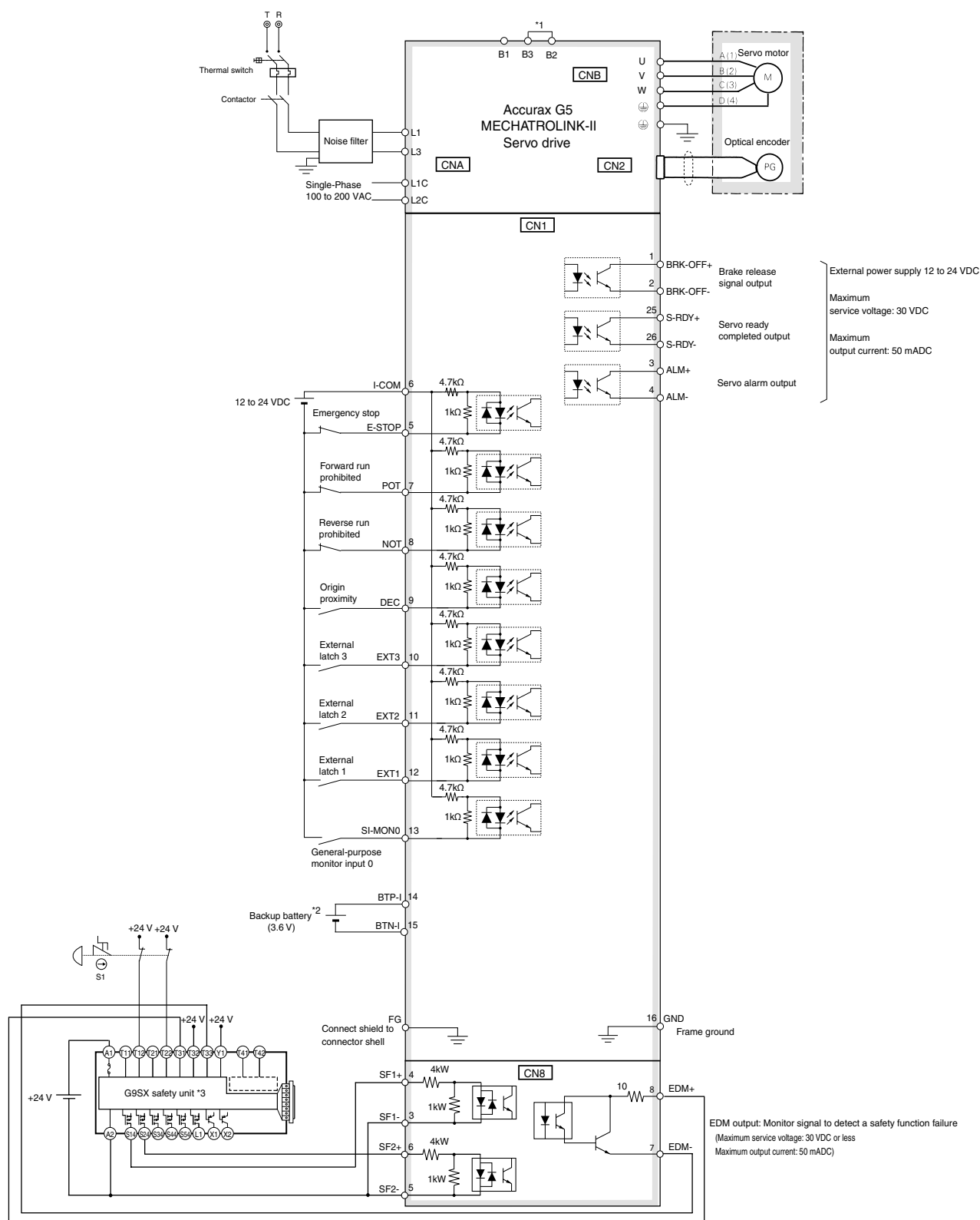
Filters

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.

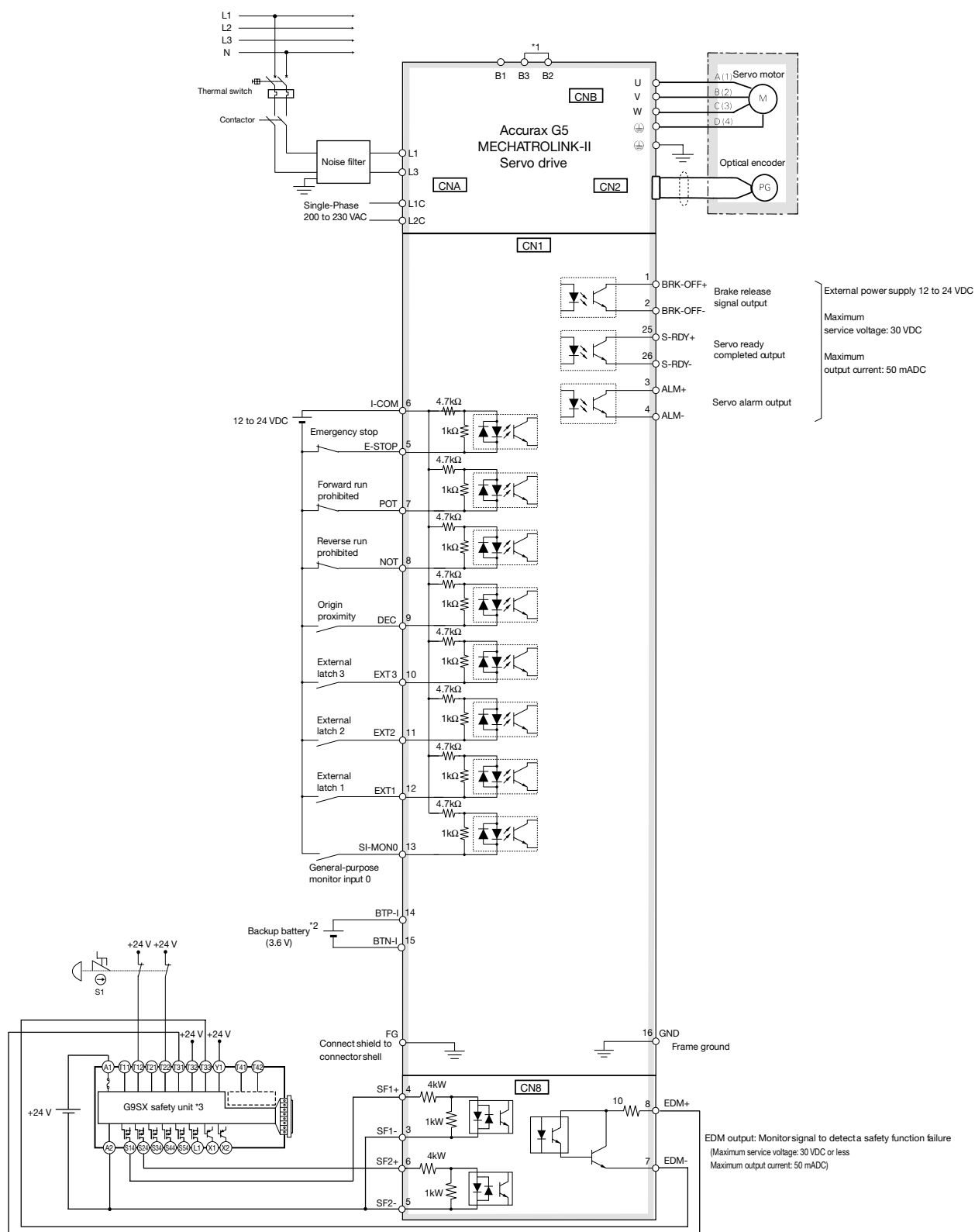
*2 For use only with an absolute encoder. If a backup battery is connected to CN1 I/O connector, an encoder cable with a battery is not required.

*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.

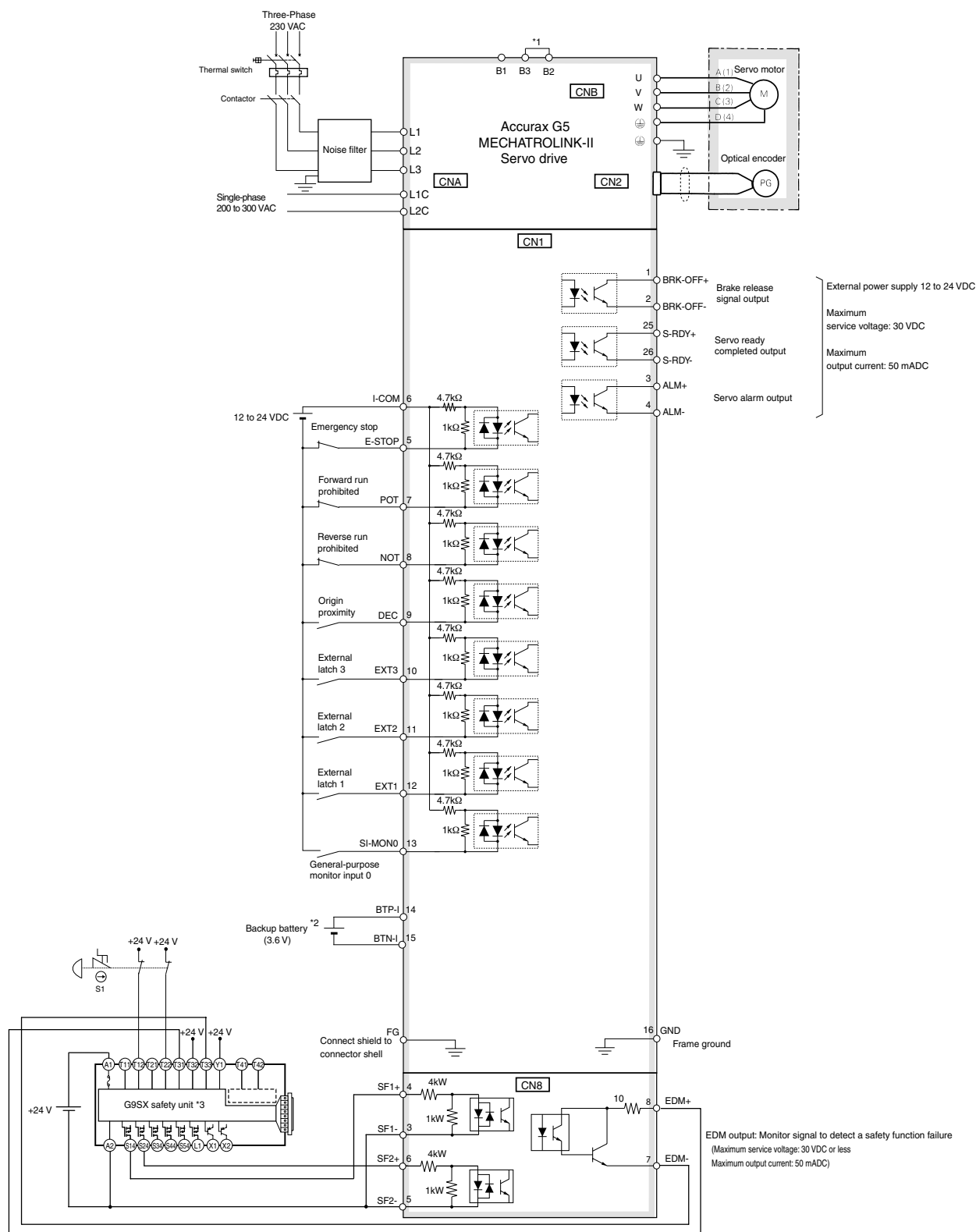
*2 For use only with an absolute encoder. If a backup battery is connected to CN1 I/O connector, an encoder cable with a battery is not required.

*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.

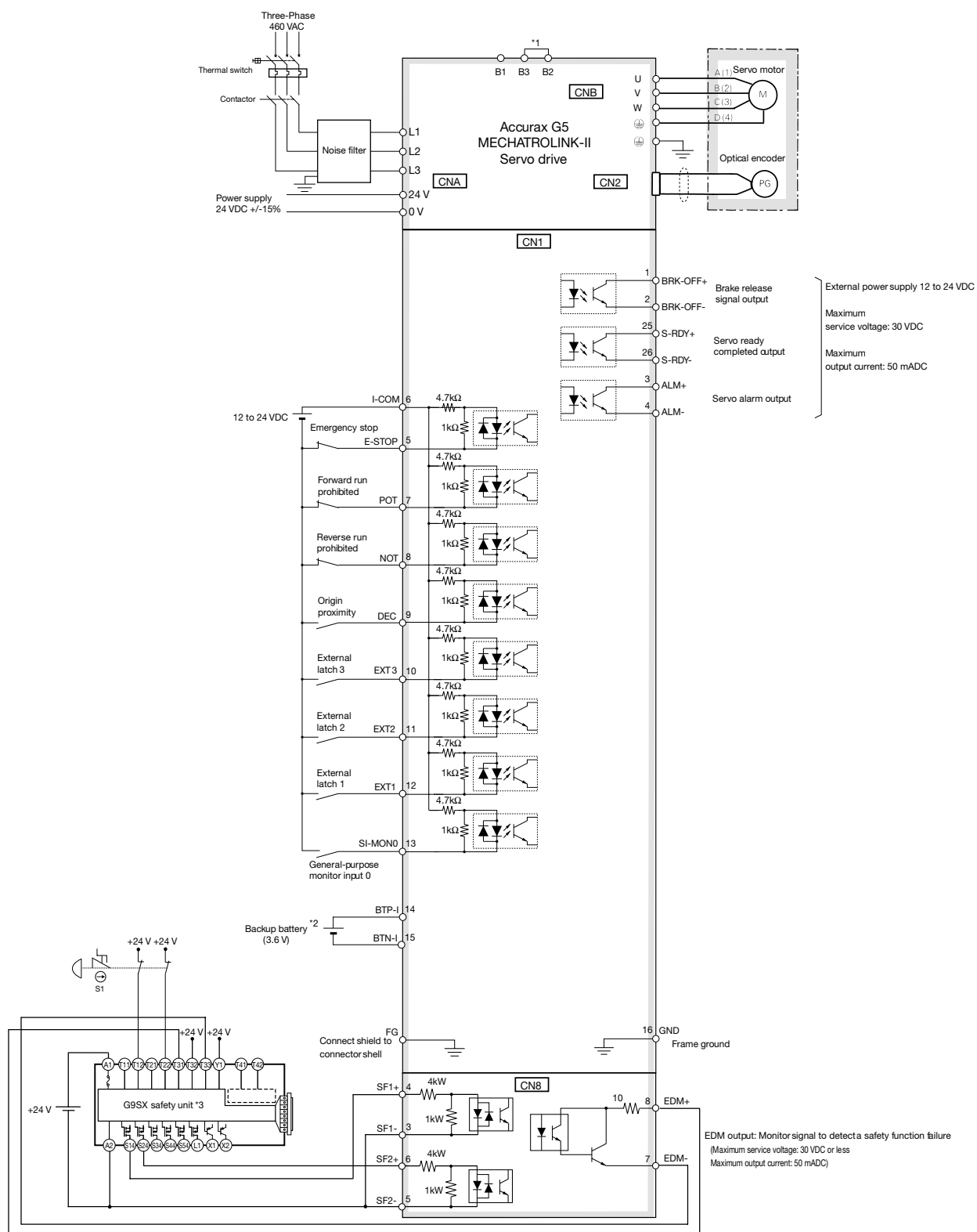
*2 For use only with an absolute encoder. If a backup battery is connected to CN1 I/O connector, an encoder cable with a battery is not required.

*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.

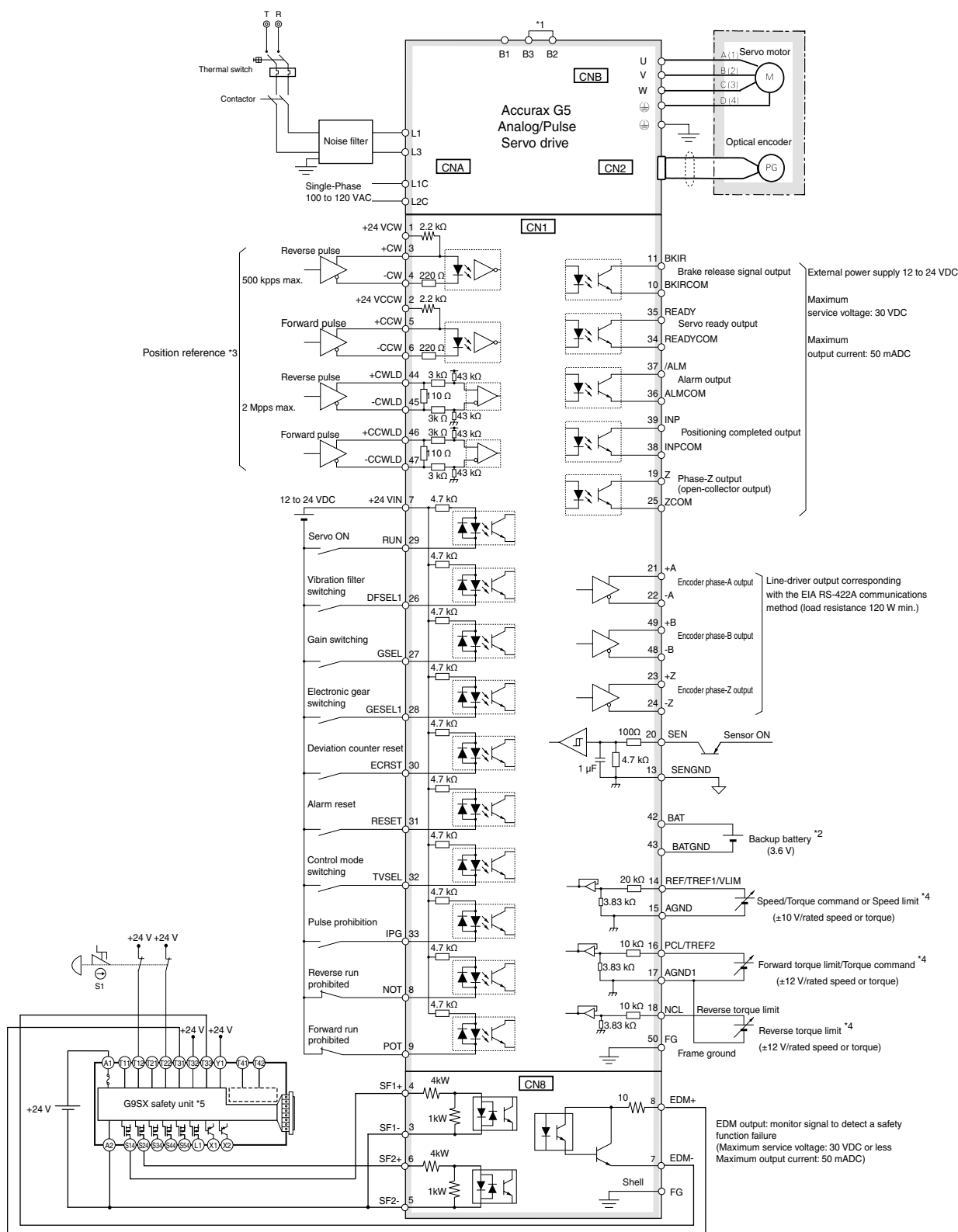
*2 For use only with an absolute encoder. If a backup battery is connected to CN1 I/O connector, an encoder cable with a battery is not required.

*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.

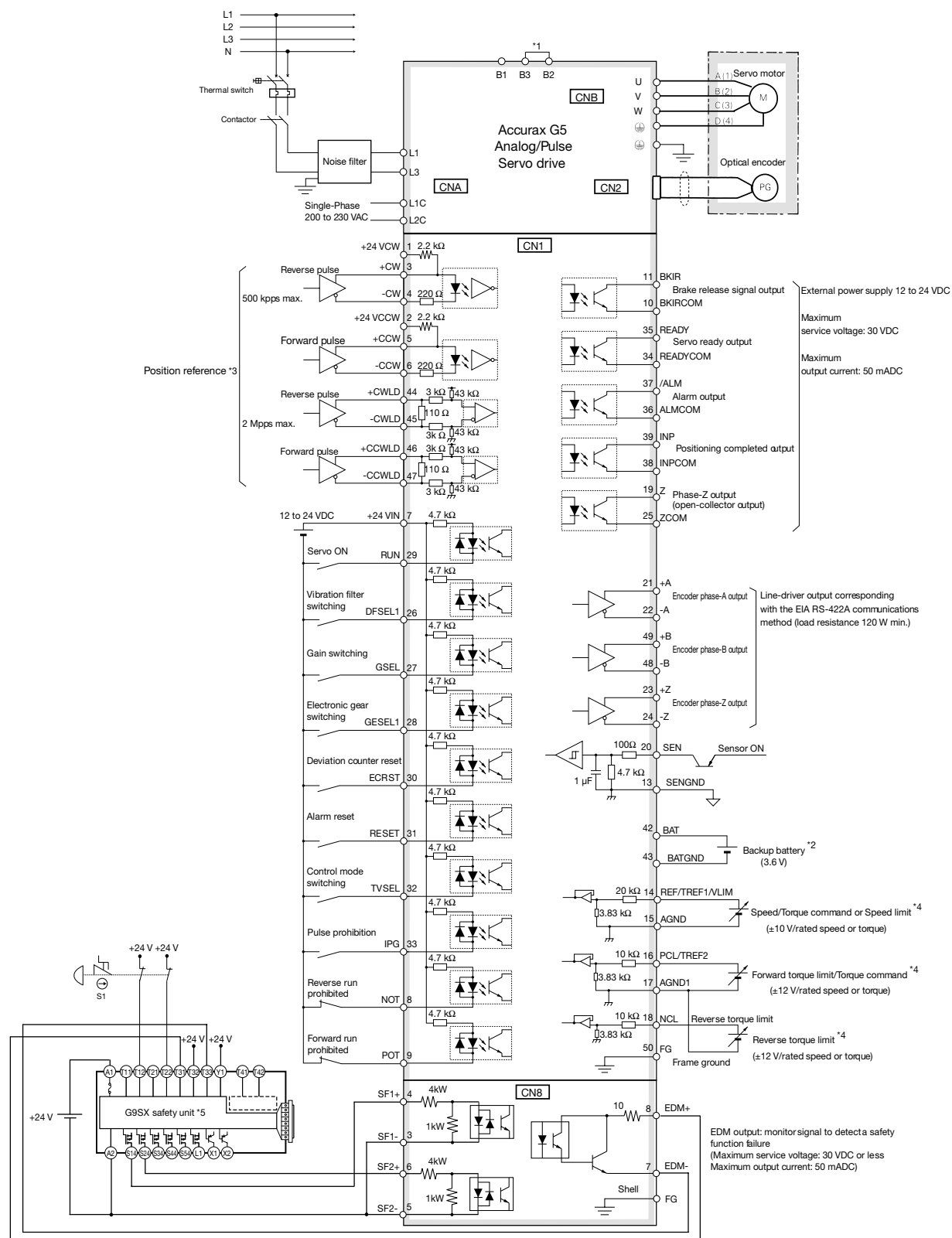
*4 The input function depends on control mode used (Position, speed or torque control).

*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.

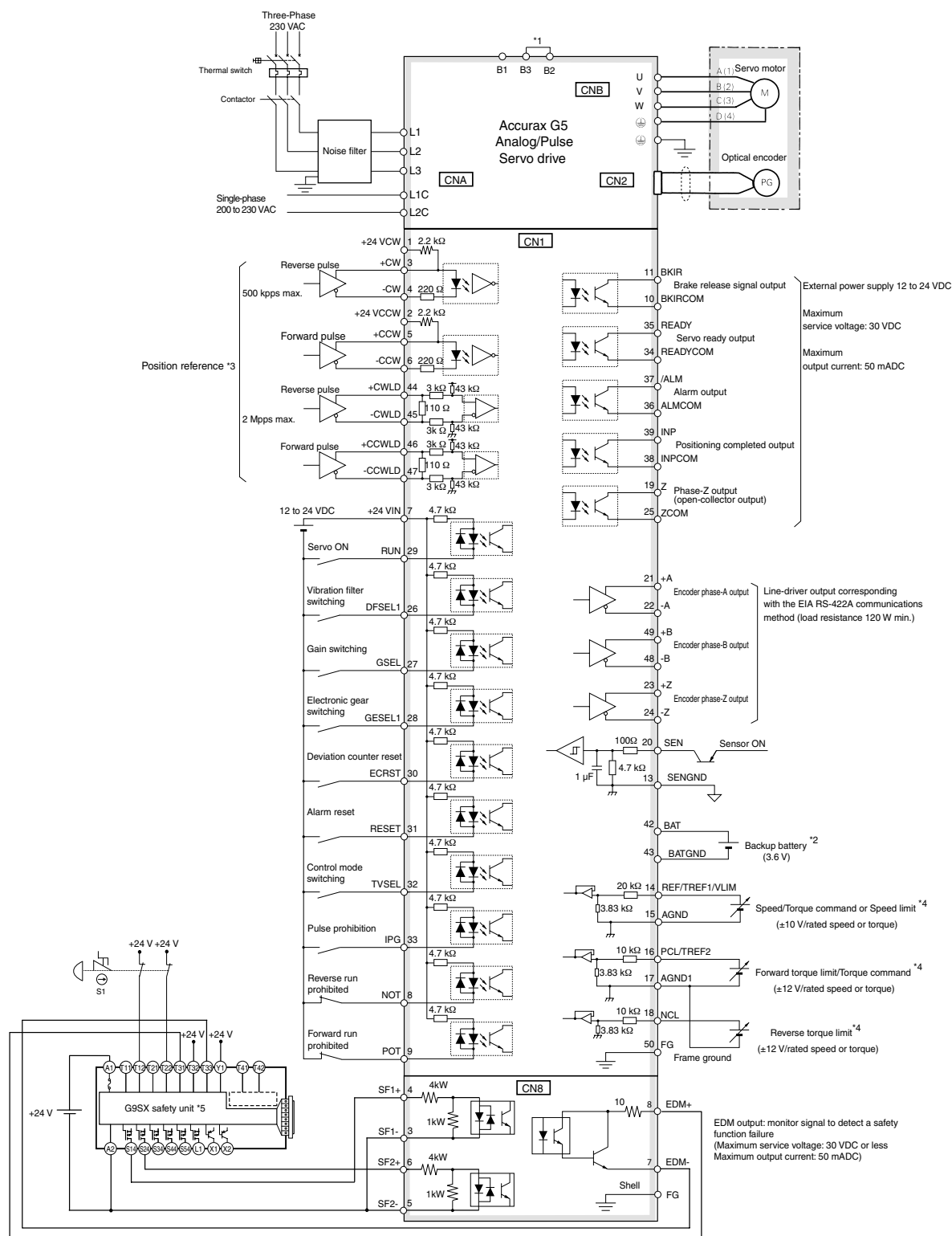
*4 The input function depends on control mode used (Position, speed or torque control).

*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.

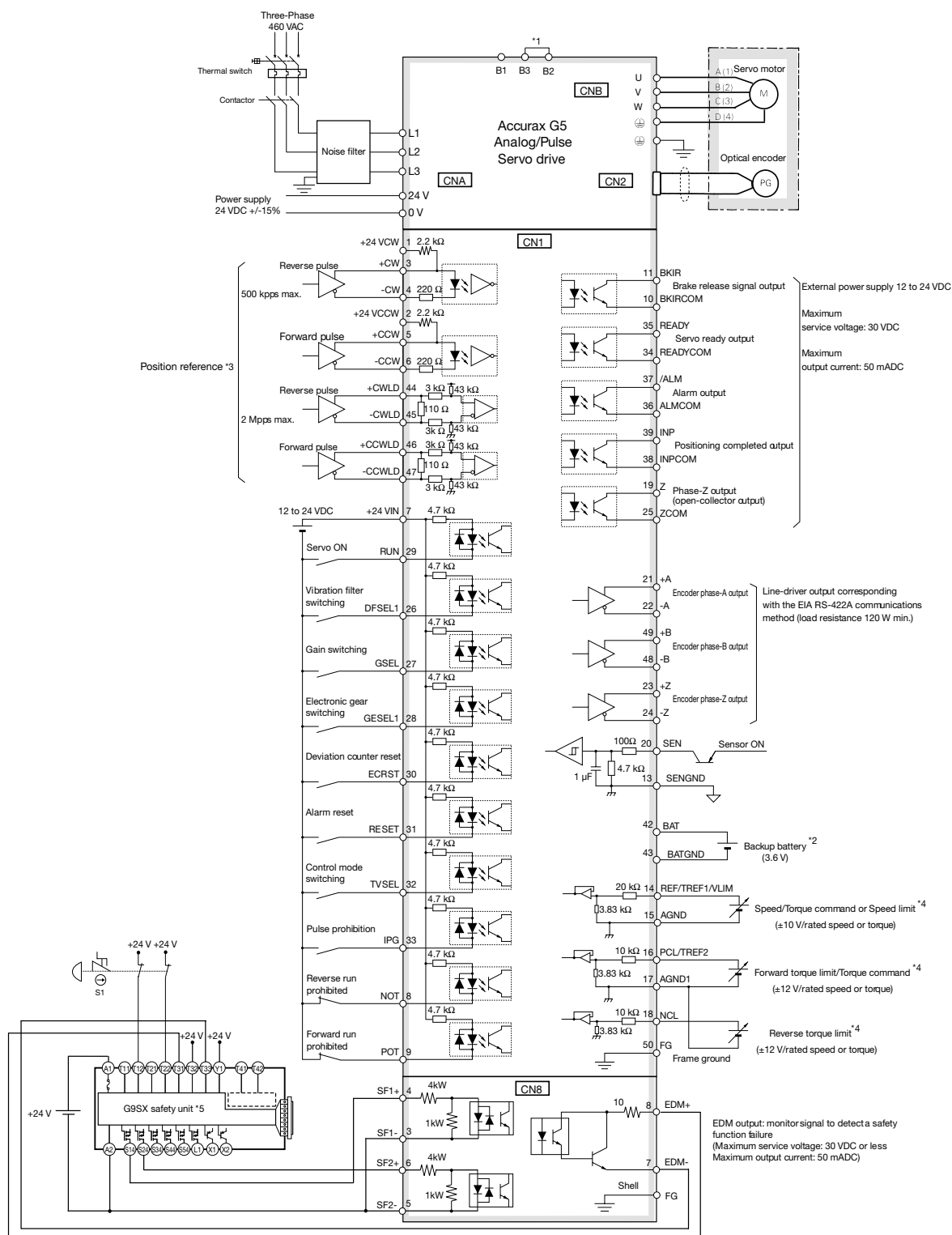
*4 The input function depends on control mode used (Position, speed or torque control).

*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.

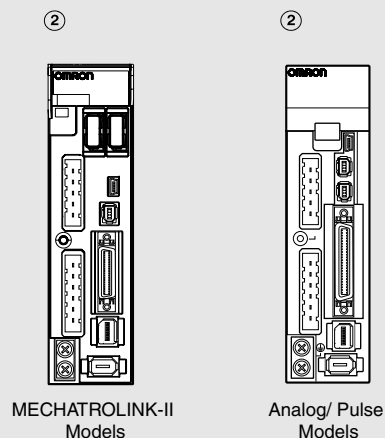
Note: The input function of pins 8, 9 and 26 to 33, and output function of pins 10, 11, 34, 35, 38 and 39, can be changed via parameter settings.

Ordering Information

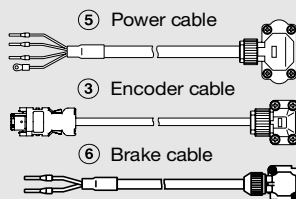
Accurax G5 Servo Motor configuration

(Refer to Servo Drive Section)

Drive options



④ Extension cable for Absolute encoder (with battery holder)



① Servo Motor
3000 rpm (50 W-750 W)

① Servo Motor
3000 rpm (1 kW-5 kW)

① Servo Motor
2000 rpm (400 W-5 kW)

① Servo Motor
1000 rpm (900 W-3 kW)

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
 230 V (50 - 750 W)  230 V (1000 - 1500 W) 400 V (750 - 5000 W)	Single-phase 100 VAC	Incremental encoder (20 bit) 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
				1.3 N • m	400 W	R88M-K40030L-S2	R88D-KN04L-ML2	R88D-KT04L
			With brake	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
				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
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	0.16 N • m	50 W	R88M-K05030T-S2	R88D-KNA5L-ML2	R88D-KTA5L
				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
			With brake	0.16 N • m	50 W	R88M-K05030T-BS2	R88D-KNA5L-ML2	R88D-KTA5L
				0.32 N • m	100 W	R88M-K10030S-BS2	R88D-KN01L-ML2	R88D-KT01L
				0.64 N • m	200 W	R88M-K20030S-BS2	R88D-KN02L-ML2	R88D-KT02L
				1.3 N • m	400 W	R88M-K40030S-BS2	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	
①  230 V (50 - 750 W)  230 V (1000 - 1500 W) 400 V (750 - 5000 W)	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	
				4.77 N • m	1.5 kW	R88M-K1K530H-S2	R88D-KN15H-ML2	R88D-KT15H	
			With brake	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	
				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	
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	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	
				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	
			With brake	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	
				1.3 N • m	400 W	R88M-K40030T-BS2	R88D-KN04H-ML2	R88D-KT04H	
				2.4 N • m	750 W	R88M-K75030T-BS2	R88D-KN08H-ML2	R88D-KT08H	
				3.18 N • m	1 kW	R88M-K1K030T-BS2	R88D-KN15H-ML2	R88D-KT15H	
				4.77 N • m	1.5 kW	R88M-K1K530T-BS2	R88D-KN15H-ML2	R88D-KT15H	
	3-phase 200 VAC	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	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	
				15.9 N • m	5 kW	R88M-K5K030H-S2	R88D-KN50H-ML2	R88D-KT50H	
			With brake	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	
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	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	
			With brake	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	
				15.9 N • m	5 kW	R88M-K5K030T-BS2	R88D-KN50H-ML2	R88D-KT50H	
		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
					15.9 N • m	5 kW	R88M-K5K030F-S2	R88D-KN50F-ML2	R88D-KT50F
				With brake	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	
	12.7 N • m				4 kW	R88M-K4K030F-BS2	R88D-KN50F-ML2	R88D-KT50F	
	Absolute encoder (17 bit) Straight shaft with key and tap		Without brake	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	
				9.55 N • m	3 kW	R88M-K3K030C-S2	R88D-KN30F-ML2	R88D-KT30F	
			With brake	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  <table><tr><td rowspan="6">Single-phase/3-phase 200 VAC</td><td rowspan="12">Incremental encoder (20 bit) Straight shaft with key and tap</td><td rowspan="6">Without brake</td><td>4.77 N • m</td><td>1 kW</td><td>R88M-K1K020H-S2</td><td>R88D-KN10H-ML2</td><td>R88D-KT10H</td></tr><tr><td>7.16 N • m</td><td>1.5 kW</td><td>R88M-K1K520H-S2</td><td>R88D-KN15H-ML2</td><td>R88D-KT15H</td></tr><tr><td>9.55 N • m</td><td>2 kW</td><td>R88M-K2K020H-S2</td><td>R88D-KN20H-ML2</td><td>R88D-KT20H</td></tr><tr><td>14.3 N • m</td><td>3 kW</td><td>R88M-K3K020H-S2</td><td>R88D-KN30H-ML2</td><td>R88D-KT30H</td></tr><tr><td>19.1 N • m</td><td>4 kW</td><td>R88M-K4K020H-S2</td><td>R88D-KN50H-ML2</td><td>R88D-KT50H</td></tr><tr><td>23.9 N • m</td><td>5 kW</td><td>R88M-K5K020H-S2</td><td>R88D-KN50H-ML2</td><td>R88D-KT50H</td></tr><tr><td rowspan="6">3-phase 200 VAC</td><td rowspan="6">With brake</td><td>4.77 N • m</td><td>1 kW</td><td>R88M-K1K020H-BS2</td><td>R88D-KN10H-ML2</td><td>R88D-KT10H</td></tr><tr><td>7.16 N • m</td><td>1.5 kW</td><td>R88M-K1K520H-BS2</td><td>R88D-KN15H-ML2</td><td>R88D-KT15H</td></tr><tr><td>9.55 N • m</td><td>2 kW</td><td>R88M-K2K020H-BS2</td><td>R88D-KN20H-ML2</td><td>R88D-KT20H</td></tr><tr><td>14.3 N • m</td><td>3 kW</td><td>R88M-K3K020H-BS2</td><td>R88D-KN30H-ML2</td><td>R88D-KT30H</td></tr><tr><td>19.1 N • m</td><td>4 kW</td><td>R88M-K4K020H-BS2</td><td>R88D-KN50H-ML2</td><td>R88D-KT50H</td></tr><tr><td>23.9 N • m</td><td>5 kW</td><td>R88M-K5K020H-BS2</td><td>R88D-KN50H-ML2</td><td>R88D-KT50H</td></tr><tr><td rowspan="6">Single-phase/3-phase 200 VAC</td><td rowspan="12">Absolute encoder (17 bit) Straight shaft with key and tap</td><td rowspan="6">Without brake</td><td>4.77 N • m</td><td>1 kW</td><td>R88M-K1K020T-S2</td><td>R88D-KN10H-ML2</td><td>R88D-KT10H</td></tr><tr><td>7.16 N • m</td><td>1.5 kW</td><td>R88M-K1K520T-S2</td><td>R88D-KN15H-ML2</td><td>R88D-KT15H</td></tr><tr><td>9.55 N • m</td><td>2 kW</td><td>R88M-K2K020T-S2</td><td>R88D-KN20H-ML2</td><td>R88D-KT20H</td></tr><tr><td>14.3 N • m</td><td>3 kW</td><td>R88M-K3K020T-S2</td><td>R88D-KN30H-ML2</td><td>R88D-KT30H</td></tr><tr><td>19.1 N • m</td><td>4 kW</td><td>R88M-K4K020T-S2</td><td>R88D-KN50H-ML2</td><td>R88D-KT50H</td></tr><tr><td>23.9 N • m</td><td>5 kW</td><td>R88M-K5K020T-S2</td><td>R88D-KN50H-ML2</td><td>R88D-KT50H</td></tr><tr><td rowspan="6">Single-phase/3-phase 200 VAC</td><td rowspan="6">With brake</td><td>4.77 N • m</td><td>1 kW</td><td>R88M-K1K020T-BS2</td><td>R88D-KN10H-ML2</td><td>R88D-KT10H</td></tr><tr><td>7.16 N • m</td><td>1.5 kW</td><td>R88M-K1K520T-BS2</td><td>R88D-KN15H-ML2</td><td>R88D-KT15H</td></tr><tr><td>9.55 N • m</td><td>2 kW</td><td>R88M-K2K020T-BS2</td><td>R88D-KN20H-ML2</td><td>R88D-KT20H</td></tr><tr><td>14.3 N • m</td><td>3 kW</td><td>R88M-K3K020T-BS2</td><td>R88D-KN30H-ML2</td><td>R88D-KT30H</td></tr><tr><td>19.1 N • m</td><td>4 kW</td><td>R88M-K4K020T-BS2</td><td>R88D-KN50H-ML2</td><td>R88D-KT50H</td></tr><tr><td>23.9 N • m</td><td>5 kW</td><td>R88M-K5K020T-BS2</td><td>R88D-KN50H-ML2</td><td>R88D-KT50H</td></tr><tr><td rowspan="30">3-phase 400 VAC</td><td rowspan="24">Incremental encoder (20 bit) Straight shaft with key and tap</td><td rowspan="8">Without brake</td><td>1.91 N • m</td><td>400 W</td><td>R88M-K40020F-S2</td><td>R88D-KN06F-ML2</td><td>R88D-KT06F</td></tr><tr><td>2.86 N • m</td><td>600 W</td><td>R88M-K60020F-S2</td><td>R88D-KN06F-ML2</td><td>R88D-KT06F</td></tr><tr><td>4.77 N • m</td><td>1 kW</td><td>R88M-K1K020F-S2</td><td>R88D-KN10F-ML2</td><td>R88D-KT10F</td></tr><tr><td>7.16 N • m</td><td>1.5 kW</td><td>R88M-K1K520F-S2</td><td>R88D-KN15F-ML2</td><td>R88D-KT15F</td></tr><tr><td>9.55 N • m</td><td>2 kW</td><td>R88M-K2K020F-S2</td><td>R88D-KN20F-ML2</td><td>R88D-KT20F</td></tr><tr><td>14.3 N • m</td><td>3 kW</td><td>R88M-K3K020F-S2</td><td>R88D-KN30F-ML2</td><td>R88D-KT30F</td></tr><tr><td>19.1 N • m</td><td>4 kW</td><td>R88M-K4K020F-S2</td><td>R88D-KN50F-ML2</td><td>R88D-KT50F</td></tr><tr><td>23.9 N • m</td><td>5 kW</td><td>R88M-K5K020F-S2</td><td>R88D-KN50F-ML2</td><td>R88D-KT50F</td></tr><tr><td rowspan="8">With brake</td><td>1.91 N • m</td><td>400 W</td><td>R88M-K40020F-BS2</td><td>R88D-KN06F-ML2</td><td>R88D-KT06F</td></tr><tr><td>2.86 N • m</td><td>600 W</td><td>R88M-K60020F-BS2</td><td>R88D-KN06F-ML2</td><td>R88D-KT06F</td></tr><tr><td>4.77 N • m</td><td>1 kW</td><td>R88M-K1K020F-BS2</td><td>R88D-KN10F-ML2</td><td>R88D-KT10F</td></tr><tr><td>7.16 N • m</td><td>1.5 kW</td><td>R88M-K1K520F-BS2</td><td>R88D-KN15F-ML2</td><td>R88D-KT15F</td></tr><tr><td>9.55 N • m</td><td>2 kW</td><td>R88M-K2K020F-BS2</td><td>R88D-KN20F-ML2</td><td>R88D-KT20F</td></tr><tr><td>14.3 N • m</td><td>3 kW</td><td>R88M-K3K020F-BS2</td><td>R88D-KN30F-ML2</td><td>R88D-KT30F</td></tr><tr><td>19.1 N • m</td><td>4 kW</td><td>R88M-K4K020F-BS2</td><td>R88D-KN50F-ML2</td><td>R88D-KT50F</td></tr><tr><td>23.9 N • m</td><td>5 kW</td><td>R88M-K5K020F-BS2</td><td>R88D-KN50F-ML2</td><td>R88D-KT50F</td></tr><tr><td rowspan="16">Absolute encoder (17 bit) Straight shaft with key and tap</td><td rowspan="8">Without brake</td><td>1.91 N • m</td><td>400 W</td><td>R88M-K40020C-S2</td><td>R88D-KN06F-ML2</td><td>R88D-KT06F</td></tr><tr><td>2.86 N • m</td><td>600 W</td><td>R88M-K60020C-S2</td><td>R88D-KN06F-ML2</td><td>R88D-KT06F</td></tr><tr><td>4.77 N • m</td><td>1 kW</td><td>R88M-K1K020C-S2</td><td>R88D-KN10F-ML2</td><td>R88D-KT10F</td></tr><tr><td>7.16 N • m</td><td>1.5 kW</td><td>R88M-K1K520C-S2</td><td>R88D-KN15F-ML2</td><td>R88D-KT15F</td></tr><tr><td>9.55 N • m</td><td>2 kW</td><td>R88M-K2K020C-S2</td><td>R88D-KN20F-ML2</td><td>R88D-KT20F</td></tr><tr><td>14.3 N • m</td><td>3 kW</td><td>R88M-K3K020C-S2</td><td>R88D-KN30F-ML2</td><td>R88D-KT30F</td></tr><tr><td>19.1 N • m</td><td>4 kW</td><td>R88M-K4K020C-S2</td><td>R88D-KN50F-ML2</td><td>R88D-KT50F</td></tr><tr><td>23.9 N • m</td><td>5 kW</td><td>R88M-K5K020C-S2</td><td>R88D-KN50F-ML2</td><td>R88D-KT50F</td></tr><tr><td rowspan="8">With brake</td><td>1.91 N • m</td><td>400 W</td><td>R88M-K40020C-BS2</td><td>R88D-KN06F-ML2</td><td>R88D-KT06F</td></tr><tr><td>2.86 N • m</td><td>600 W</td><td>R88M-K60020C-BS2</td><td>R88D-KN06F-ML2</td><td>R88D-KT06F</td></tr><tr><td>4.77 N • m</td><td>1 kW</td><td>R88M-K1K020C-BS2</td><td>R88D-KN10F-ML2</td><td>R88D-KT10F</td></tr><tr><td>7.16 N • m</td><td>1.5 kW</td><td>R88M-K1K520C-BS2</td><td>R88D-KN15F-ML2</td><td>R88D-KT15F</td></tr><tr><td>9.55 N • m</td><td>2 kW</td><td>R88M-K2K020C-BS2</td><td>R88D-KN20F-ML2</td><td>R88D-KT20F</td></tr><tr><td>14.3 N • m</td><td>3 kW</td><td>R88M-K3K020C-BS2</td><td>R88D-KN30F-ML2</td><td>R88D-KT30F</td></tr><tr><td>19.1 N • m</td><td>4 kW</td><td>R88M-K4K020C-BS2</td><td>R88D-KN50F-ML2</td><td>R88D-KT50F</td></tr><tr><td>23.9 N • m</td><td>5 kW</td><td>R88M-K5K020C-BS2</td><td>R88D-KN50F-ML2</td><td>R88D-KT50F</td></tr></table>	Single-phase/3-phase 200 VAC	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	4.77 N • m	1 kW	R88M-K1K020H-S2	R88D-KN10H-ML2	R88D-KT10H	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	3-phase 200 VAC	With brake	4.77 N • m	1 kW	R88M-K1K020H-BS2	R88D-KN10H-ML2	R88D-KT10H	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	Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	4.77 N • m	1 kW	R88M-K1K020T-S2	R88D-KN10H-ML2	R88D-KT10H	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	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	Incremental encoder (20 bit) 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	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	19.1 N • m	4 kW	R88M-K4K020F-BS2	R88D-KN50F-ML2	R88D-KT50F	23.9 N • m	5 kW	R88M-K5K020F-BS2	R88D-KN50F-ML2	R88D-KT50F	Absolute encoder (17 bit) 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	19.1 N • m	4 kW	R88M-K4K020C-S2	R88D-KN50F-ML2	R88D-KT50F	23.9 N • m	5 kW	R88M-K5K020C-S2	R88D-KN50F-ML2	R88D-KT50F	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
				Single-phase/3-phase 200 VAC	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	4.77 N • m	1 kW	R88M-K1K020H-S2	R88D-KN10H-ML2	R88D-KT10H																																																																																																																																																																																																																																																																																														
							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																																																																																																																																																																																																																																																																																														
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	3-phase 200 VAC		With brake	4.77 N • m		1 kW	R88M-K1K020H-BS2	R88D-KN10H-ML2	R88D-KT10H																																																																																																																																																																																																																																																																																																
				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																																																																																																																																																																																																																																																																																																
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		23.9 N • m		5 kW		R88M-K5K020H-BS2	R88D-KN50H-ML2	R88D-KT50H																																																																																																																																																																																																																																																																																																	
	Single-phase/3-phase 200 VAC	Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	4.77 N • m	1 kW	R88M-K1K020T-S2	R88D-KN10H-ML2	R88D-KT10H																																																																																																																																																																																																																																																																																																	
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	Single-phase/3-phase 200 VAC		With brake	4.77 N • m	1 kW	R88M-K1K020T-BS2	R88D-KN10H-ML2	R88D-KT10H																																																																																																																																																																																																																																																																																																	
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	3-phase 400 VAC	Incremental encoder (20 bit) 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																																																																																																																																																																																																																																																																																																	
			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																																																																																																																																																																																																																																																																																																	
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			Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	1.91 N • m	400 W	R88M-K40020C-S2	R88D-KN06F-ML2	R88D-KT06F																																																																																																																																																																																																																																																																																																
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					7.16 N • m	1.5 kW	R88M-K1K520C-S2	R88D-KN15F-ML2	R88D-KT15F																																																																																																																																																																																																																																																																																																
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		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																																																																																																																																																																																																																																																																																																			
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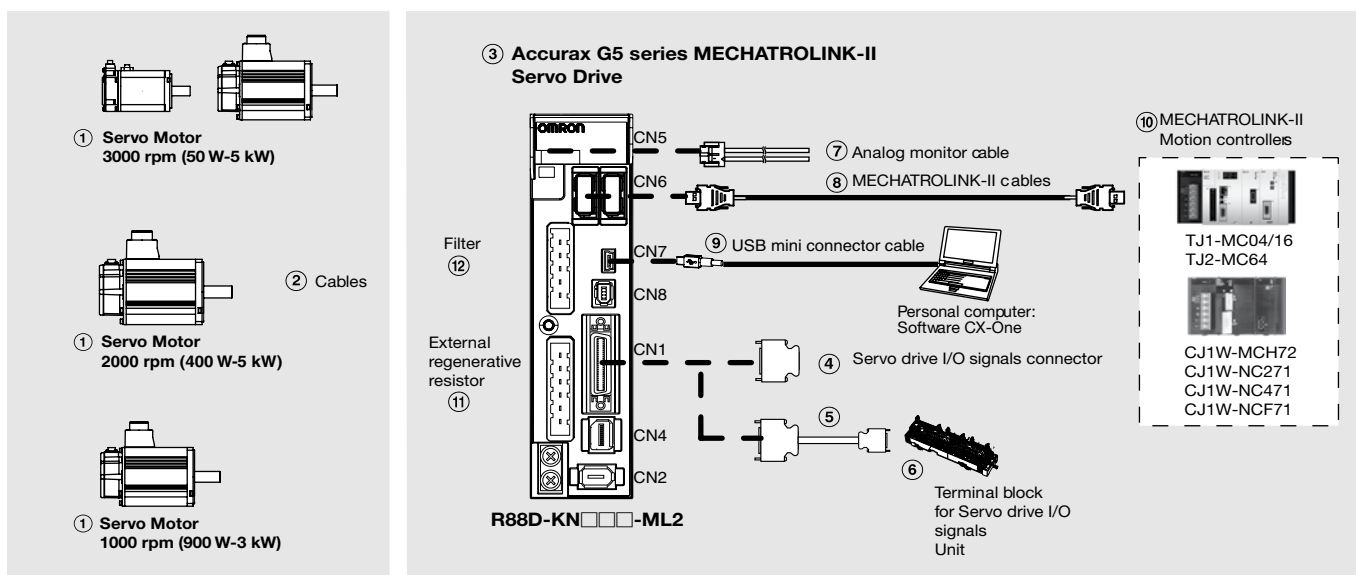
Ordering Information

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	Incremental encoder (20 bit) 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	Absolute encoder (17 bit) 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	Incremental encoder (20 bit) 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	Absolute encoder (17 bit) 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)-□	
		200 W	R88D-KN02H-ML2	R88M-K20030(H/T)-□	
		400 W	R88D-KN04H-ML2	R88M-K40030(H/T)-□	
		750 W	R88D-KN08H-ML2	R88M-K75030(H/T)-□	
		1 kW	R88D-KN10H-ML2	R88M-K1K020(H/T)-□ R88M-K1K030(H/T)-□ R88M-K1K530(H/T)-□ R88M-K1K520(H/T)-□ R88M-K90010(H/T)-□	
		1.5 kW	R88D-KN15H-ML2		
		3-phase, 230 VAC	2 kW	R88D-KN20H-ML2	R88M-K2K030(H/T)-□
			3 kW	R88D-KN30H-ML2	R88M-K3K030(H/T)-□
			5 kW	R88D-KN50H-ML2	R88M-K5K030(H/T)-□
	3-phase, 460 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)-□ R88M-K1K530(F/C)-□ R88M-K1K520(F/C)-□ R88M-K90010(F/C)-□	
		1.5 kW	R88D-KN15F-ML2		
		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	R88M-K4K030(F/C)-□ R88M-K5K030(F/C)-□ R88M-K4K020(F/C)-□ R88M-K5K020(F/C)-□ R88M-K3K010(F/C)-□	

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	For I/O general purpose	1 m	XW2Z-100J-B34
			2 m	XW2Z-200J-B34
⑥	Terminal block (M3 screw and for pin terminals)		–	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	–	FN-Y-W6022
	MECHATROLINK-II cables	0.5 m	FN-Y-W6003-A5
		1 m	FN-Y-W6003-01
		3 m	FN-Y-W6003-03
		5 m	FN-Y-W6003-05
		10 m	FN-Y-W6003-10
		20 m	FN-Y-W6003-20
		30 m	FN-Y-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 ¹
	3 kW	R88D-KT30H/R88D-KN30H	R88A-FIK222-RE	22	0.5/25 ¹
	5 kW	R88D-KT50H/R88D-KN50H	R88A-FIK222-RE	22	0.5/25 ¹
Three-phase 460 VAC	600 W	R88D-KT06F/R88D-KN06F	R88A-FIK304-RE	4	0.3/32 ¹
	1 kW	R88D-KT10F/R88D-KN10F	R88A-FIK304-RE	4	0.3/32 ¹
	1.5 kW	R88D-KT15F/R88D-KN15F	R88A-FIK304-RE	4	0.3/32 ¹
	2 kW	R88D-KT20F/R88D-KN20F	R88A-FIK306-RE	6	0.3/32 ¹
	3 kW	R88D-KT50F/R88D-KN30F	R88A-FIK312-RE	12.1	0.3/32 ¹
	5 kW	R88D-KT50F/R88D-KN50F	R88A-FIK312-RE	12.1	0.3/32 ¹

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
	Position Controller Unit for CJ1 PLC	CJ1W-NCF71 (16 axes)
		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

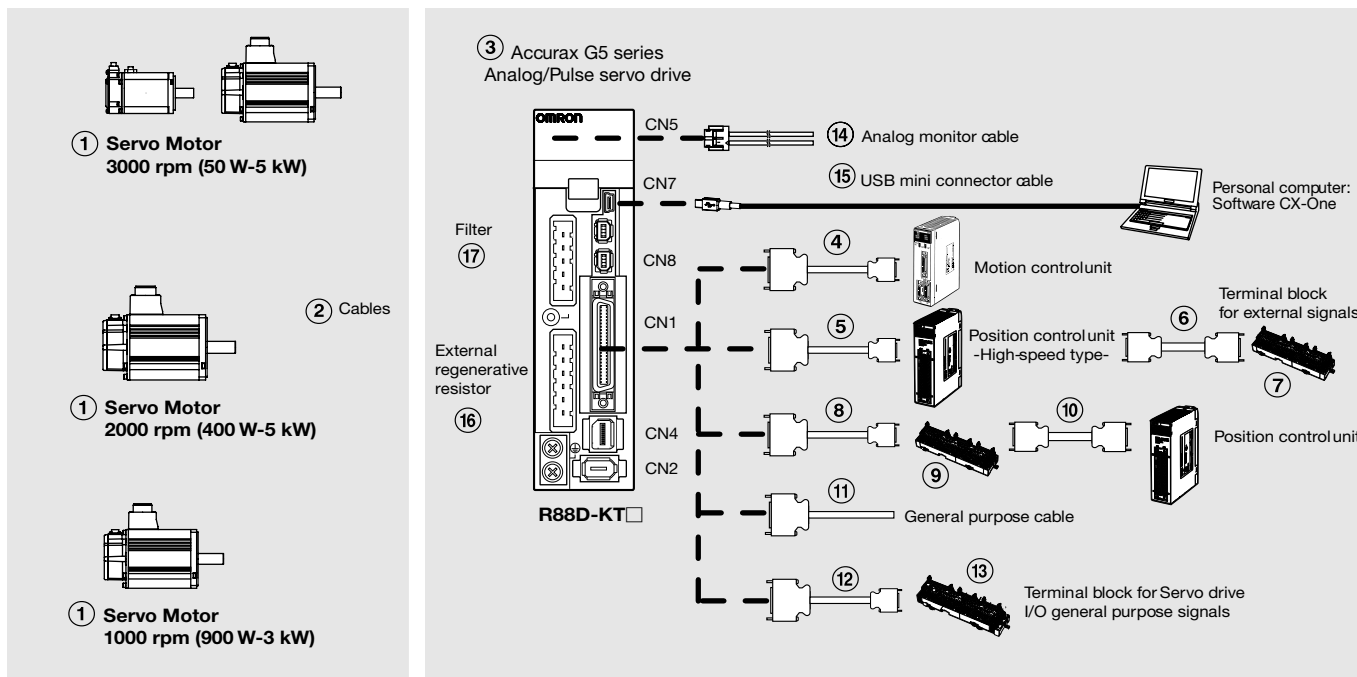
Specifications	Model
External encoder connector (for CN4)	R88A-CNK41L
Safety I/O signal connector (for CN8)	R88A-CNK81S

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
		100 W	R88D-KT01L
		200 W	R88D-KT02L
		400 W	R88D-KT04L
	1-phase, 230 VAC	100 W	R88D-KT01H
		200 W	R88D-KT02H
		400 W	R88D-KT04H
		750 W	R88D-KT08H
		1 kW	R88D-KT10H
		1.5 kW	R88D-KT15H
			R88M-K05030(H/T)-□
			R88M-K10030(H/T)-□
			R88M-K20030(H/T)-□
	3-phase, 230 VAC	2 kW	R88D-KT20H
		3 kW	R88D-KT30H
		5 kW	R88D-KT50H
	3-phase, 460 VAC	600 W	R88D-KT06F
		1 kW	R88D-KT10F
		1.5 kW	R88D-KT15F
			R88M-K40020(F/C)-□
			R88M-K60020(F/C)-□
			R88M-K75030(F/C)-□
			R88M-K1K020(F/C)-□
			R88M-K1K030(F/C)-□
			R88M-K1K530(F/C)-□
			R88M-K1K520(F/C)-□
			R88M-K90010(F/C)-□
		2 kW	R88D-KT20F
		3 kW	R88D-KT30F
		5 kW	R88D-KT50F
			R88M-K2K030(F/C)-□
			R88M-K2K020(F/C)-□
			R88M-K3K030(F/C)-□
			R88M-K3K020(F/C)-□
			R88M-K2K010(F/C)-□
			R88M-K4K030(F/C)-□
			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
			–	XW2B-20G4
⑦	Terminal block for external signals (M3 screw, pin terminals)		–	XW2B-20G5
	Terminal block for ext. signals (M3.5 screw, fork/round terminals)		–	XW2D-20G6
	Terminal block for ext. signals (M3 screw, fork/round terminals)		–	
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
			1 m	XW2Z-100J-B31
		CJ1M-CPU21/22/23	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 ¹
	3 kW	R88D-KT30H/R88D-KN30H	R88A-FIK222-RE	22	0.5/25 ¹
	5 kW	R88D-KT50H/R88D-KN50H	R88A-FIK222-RE	22	0.5/25 ¹
Three-phase 460 VAC	600 W	R88D-KT06F/R88D-KN06F	R88A-FIK304-RE	4	0.3/32 ¹
	1 kW	R88D-KT10F/R88D-KN10F	R88A-FIK304-RE	4	0.3/32 ¹
	1.5 kW	R88D-KT15F/R88D-KN15F	R88A-FIK304-RE	4	0.3/32 ¹
	2 kW	R88D-KT20F/R88D-KN20F	R88A-FIK306-RE	6	0.3/32 ¹
	3 kW	R88D-KT50F/R88D-KN30F	R88A-FIK312-RE	12.1	0.3/32 ¹
	5 kW	R88D-KT50F/R88D-KN50F	R88A-FIK312-RE	12.1	0.3/32 ¹

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

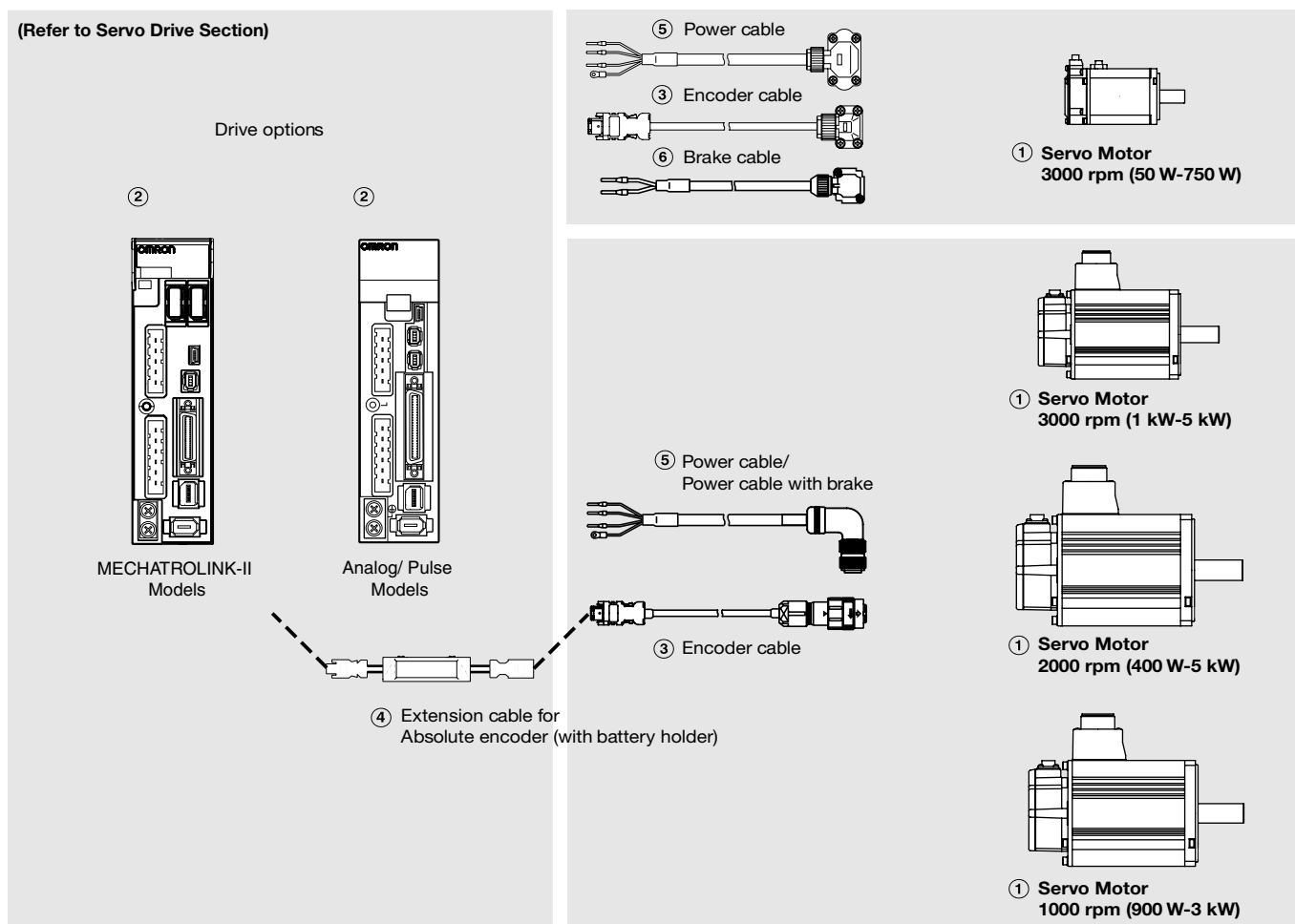
Specifications	Model
I/O connector kit -50 pins-(for CN1)	R88A-CNU11C
External encoder connector (for CN4)	R88A-CNK41L
Safety I/O signal connector (for CN8)	R88A-CNK81S

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

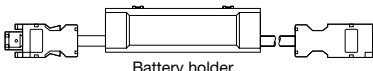
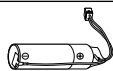
Symbol	Specifications		Model	Appearance
③	Encoder cable for Servomotors [100 V and 200 V] For 3,000-r/min motors of 50 to 750 W	1.5 m	R88A-CRKA001-5CR-E	
		3 m	R88A-CRKA003CR-E	
		5 m	R88A-CRKA005CR-E	
		10 m	R88A-CRKA010CR-E	
		15 m	R88A-CRKA015CR-E	
		20 m	R88A-CRKA020CR-E	
	Encoder cable for Servomotors [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.

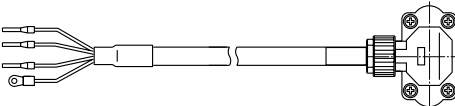
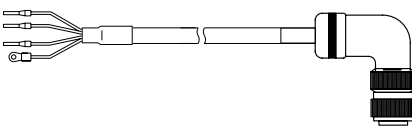
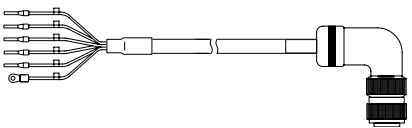
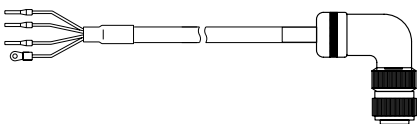
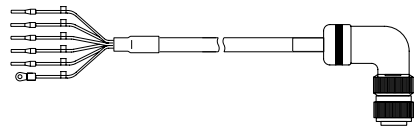
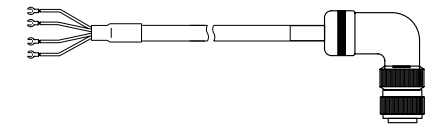
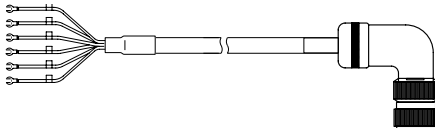
Note: Contact Omron for 30, 40 and 50 m long cables.

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	 Battery holder
		Battery included (R88A-BAT01G)	0.3 m	R88A-CRGD0R3C-BS	
	Absolute Encoder backup battery	2,000 mA.h 3.6 V	–	R88A-BAT01GE	

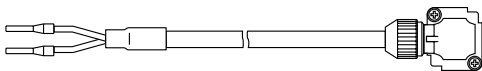
Motor Power Cables

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	
		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	
		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	
		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(750/1K0/1K5/2K0/4K0/5K0)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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