

R88M-K□

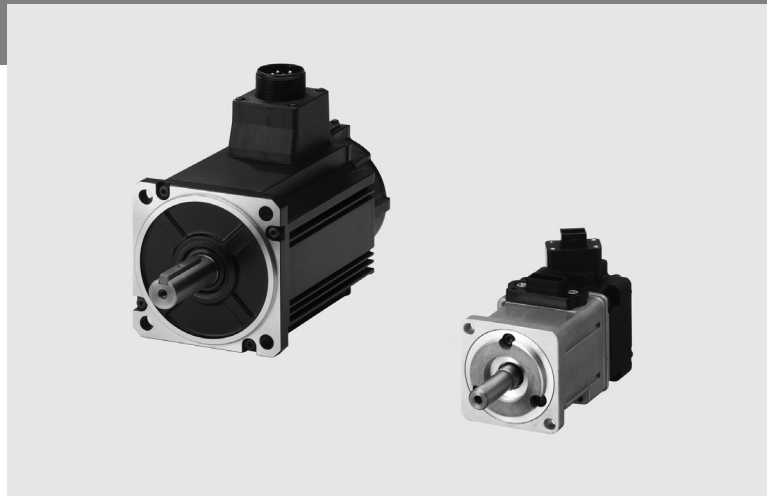
Accurax G5 servo motors

Servo family for accurate motion control. High response, high speed and high torque.

- Peak torque 300% of rated torque during 3 seconds or more depending on model
- High resolution serial encoder provided by 20 bits encoder
- IP67 protection in all models
- Ultra-light and compact size motor
- Low speed ripple and low torque ripple due to low torque cogging
- Various shaft, brake and seal options

Ratings

- 230 VAC from 50 W to 1.5 kW (rated torque from 0.16 to 8.59 Nm)
- 400 VAC from 400 W to 5 kW (rated torque from 1.91 Nm to 28.7 Nm)

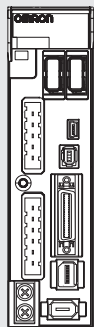


AC Servo systems

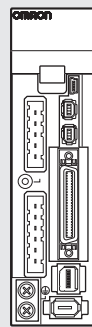
System configuration

(Refer to servo drive chapter)

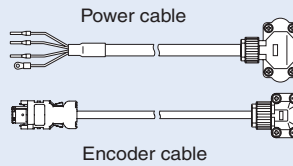
Drive options



MECHATROLINK-II models

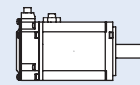


Analog/Pulse models

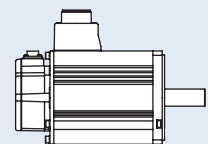


Power cable

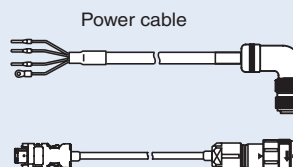
Encoder cable



Servo motor
3000 rpm (50 W-750 W)

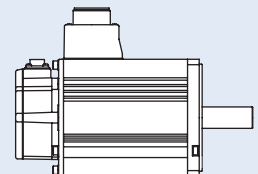


Servo motor
3000 rpm (1 kW-5 kW)

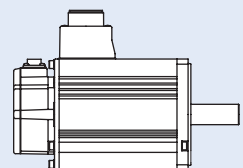


Power cable

Encoder cable



Servo motor
2000 rpm (400 W-5 kW)



Servo motor
1000 rpm (900 W-3 kW)

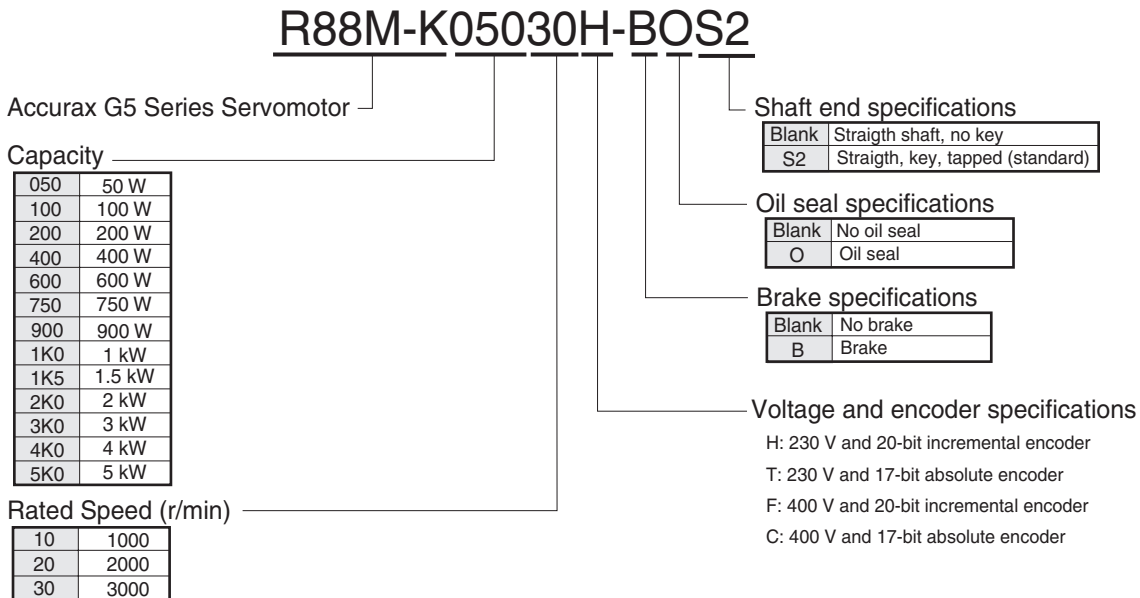
Servo motor / servo drive combination

Accurax G5 rotary servo motor						Accurax G5 servo drive						
Image	Voltage	Speed	Rated torque	Capacity	Model	MECHATROLINK-II model		Analog/Pulse model				
						230 V	400 V	230 V	400 V			
	230 V	3000 min ⁻¹	0.16 Nm	50 W	R88M-K05030(H/T)-□	R88D-KN01H-ML2	-	R88D-KT01H	-			
			0.32 Nm	100 W	R88M-K10030(H/T)-□	R88D-KN01H-ML2	-	R88D-KT01H	-			
			0.64 Nm	200 W	R88M-K20030(H/T)-□	R88D-KN02H-ML2	-	R88D-KT02H	-			
			1.3 Nm	400 W	R88M-K40030(H/T)-□	R88D-KN04H-ML2	-	R88D-KT04H	-			
			2.4 Nm	750 W	R88M-K75030(H/T)-□	R88D-KN08H-ML2	-	R88D-KT08H	-			
			3.18 Nm	1000 W	R88M-K1K030(H/T)-□	R88D-KN15H-ML2	-	R88D-KT15H	-			
			4.77 Nm	1500 W	R88M-K1K530(H/T)-□	R88D-KN15H-ML2	-	R88D-KT15H	-			
			2.39 Nm	750 W	R88M-K75030(F/C)-□	-	R88D-KN10F-ML2	-	R88D-KT10F	R88D-KT10F		
			3.18 Nm	1000 W	R88M-K1K030(F/C)-□	-	R88D-KN15F-ML2	-	R88D-KT15F	R88D-KT15F		
			4.77 Nm	1500 W	R88M-K1K530(F/C)-□	-	R88D-KN15F-ML2	-	R88D-KT15F	R88D-KT15F		
	400 V	3000 min ⁻¹	6.37 Nm	2000 W	R88M-K2K030(F/C)-□	-	R88D-KN20F-ML2	-	R88D-KT20F			
			9.55 Nm	3000 W	R88M-K3K030(F/C)-□	-	R88D-KN30F-ML2	-	R88D-KT30F	R88D-KT30F		
			12.7 Nm	4000 W	R88M-K4K030(F/C)-□	-	R88D-KN50F-ML2	-	R88D-KT50F	R88D-KT50F		
			15.9 Nm	5000 W	R88M-K5K030(F/C)-□	-	R88D-KN50F-ML2	-	R88D-KT50F	R88D-KT50F		
			230 V	2000 min ⁻¹	4.77 Nm	1000 W	R88M-K1K020(H/T)-□	R88D-KN10H-ML2	-	R88D-KT10H	-	
					7.16 Nm	1500 W	R88M-K1K520(H/T)-□	R88D-KN15H-ML2	-	R88D-KT15H	-	
					1.91 Nm	400 W	R88M-K40020(F/C)-□	-	R88D-KN06F-ML2	-	R88D-KT06F	R88D-KT06F
					2.86 Nm	600 W	R88M-K60020(F/C)-□	-	R88D-KN06F-ML2	-	R88D-KT06F	R88D-KT06F
					4.77 Nm	1000 W	R88M-K1K020(F/C)-□	-	R88D-KN10F-ML2	-	R88D-KT10F	R88D-KT10F
					7.16 Nm	1500 W	R88M-K1K520(F/C)-□	-	R88D-KN15F-ML2	-	R88D-KT15F	R88D-KT15F
9.55 Nm	2000 W	R88M-K2K020(F/C)-□			-	R88D-KN20F-ML2	-	R88D-KT20F	R88D-KT20F			
14.3 Nm	3000 W	R88M-K3K020(F/C)-□			-	R88D-KN30F-ML2	-	R88D-KT30F	R88D-KT30F			
19.1 Nm	4000 W	R88M-K4K020(F/C)-□			-	R88D-KN50F-ML2	-	R88D-KT50F	R88D-KT50F			
23.9 Nm	5000 W	R88M-K5K020(F/C)-□			-	R88D-KN50F-ML2	-	R88D-KT50F	R88D-KT50F			
	400 V	1000 min ⁻¹	8.59 Nm	900 W	R88M-K90010(H/T)-□	R88D-KN15H-ML2	-	R88D-KT15H	-			
			8.59 Nm	900 W	R88M-K90010(F/C)-□	-	R88D-KN15F-ML2	-	R88D-KT15F	R88D-KT15F		
			19.1 Nm	2000 W	R88M-K2K010(F/C)-□	-	R88D-KN30F-ML2	-	R88D-KT30F	R88D-KT30F		
			28.7 Nm	3000 W	R88M-K3K010(F/C)-□	-	R88D-KN50F-ML2	-	R88D-KT50F	R88D-KT50F		

Note: 1. For servo motor and cables part numbers refer to ordering information at the end of this chapter
 2. Refer to the servo drive chapter for drive options selection and detailed specifications

Servo motor type designation

Servo motor



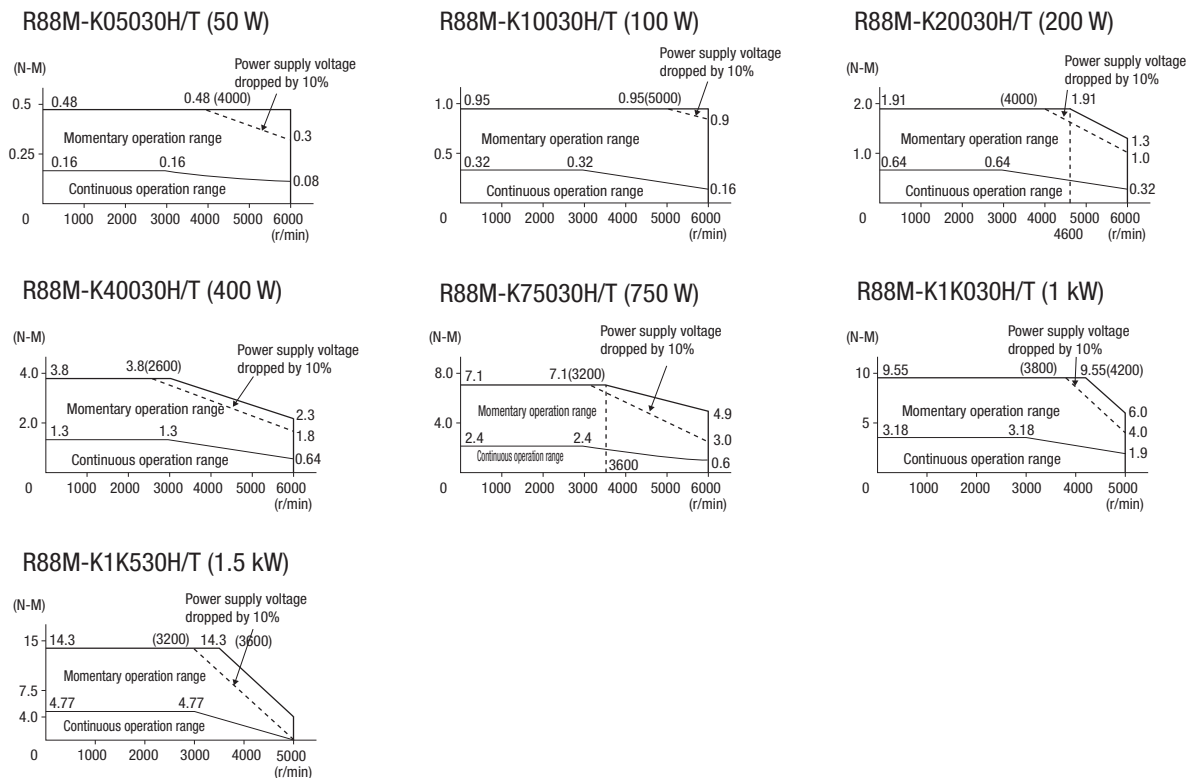
Servo motor specifications

Servo motors 3000 r/min, 230 V

Ratings and specifications

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	min ⁻¹	3000							
Max. speed	min ⁻¹	6000				5000			
Torque constant	N·m/A (rms)	0.11±10%	0.21±10%	0.31±10%	0.39±10%	0.42±10%	0.37	0.45	
Rotor moment of inertia (JM)	kg·m ² ×10 ⁻⁴ (without brake)	0.025	0.051	0.14	0.26	0.87	2.03	2.84	
	kg·m ² ×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	24VDC ±10%							
	Holding brake moment of inertia J	kg·m ² ×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	20 to 80% (non-condensing)						20 to 85% (non-condensing)	
	Vibration class	V-15							
	Insulation resistance	20 MΩ min. at 500 VDC between the power terminals and FG terminal							
	Enclosure	Totally-enclosed, self-cooling, IP67 (excluding shaft opening)							
	Vibration resistance	Vibration acceleration 49 m/s ²							
Mounting	Flange-mounted								

Torque-speed characteristics



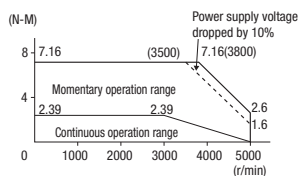
Servo motors 3000 r/min, 400 V

Ratings and specifications

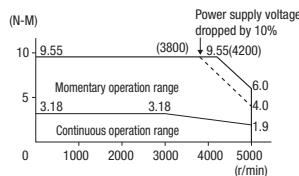
Voltage		400 V							
Servo motor model R88M-K□	20-bit incremental encoder	75030F-□	1K030F-□	1K530F-□	2K030F-□	3K030F-□	4K030F-□	5K030F-□	
	17-bit absolute encoder	75030C-□	1K030C-□	1K530C-□	2K030C-□	3K030C-□	4K030C-□	5K030C-□	
Rated output	W	750	1000	1500	2000	3000	4000	5000	
Rated torque	N·m	2.39	3.18	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	min ⁻¹	3000							
Max. speed	min ⁻¹	5000					4500		
Torque constant	N·m/A (rms)	0.78	0.75	0.89	0.87	0.81	0.98		
Rotor moment of inertia (JM)	kg·m ² ×10 ⁻⁴ (without brake)	1.61	2.03	2.84	3.68	6.5	12.9	17.4	
	kg·m ² ×10 ⁻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	24VDC±10%							
	Holding brake moment of inertia J	kg·m ² ×10 ⁻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	
	Release time	ms (max.)	50			110		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	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)							
	Mounting	Flange-mounted							

Torque-speed characteristics

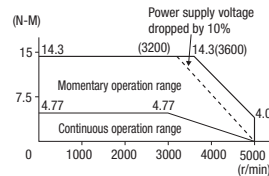
R88M-K75030F/C (750 W)



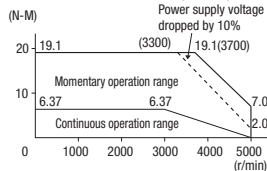
R88M-K1K030F/C (1 kW)



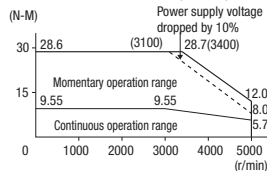
R88M-K1K530F/C (1.5 kW)



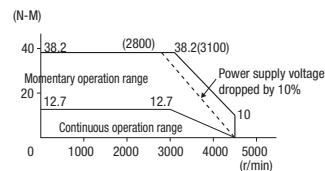
R88M-K2K030F/C (2 kW)



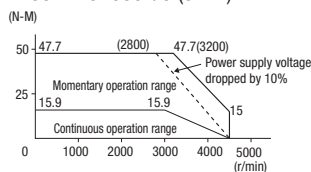
R88M-K3K030F/C (3 kW)



R88M-K4K030F/C (4 kW)



R88M-K5K030F/C (5 kW)

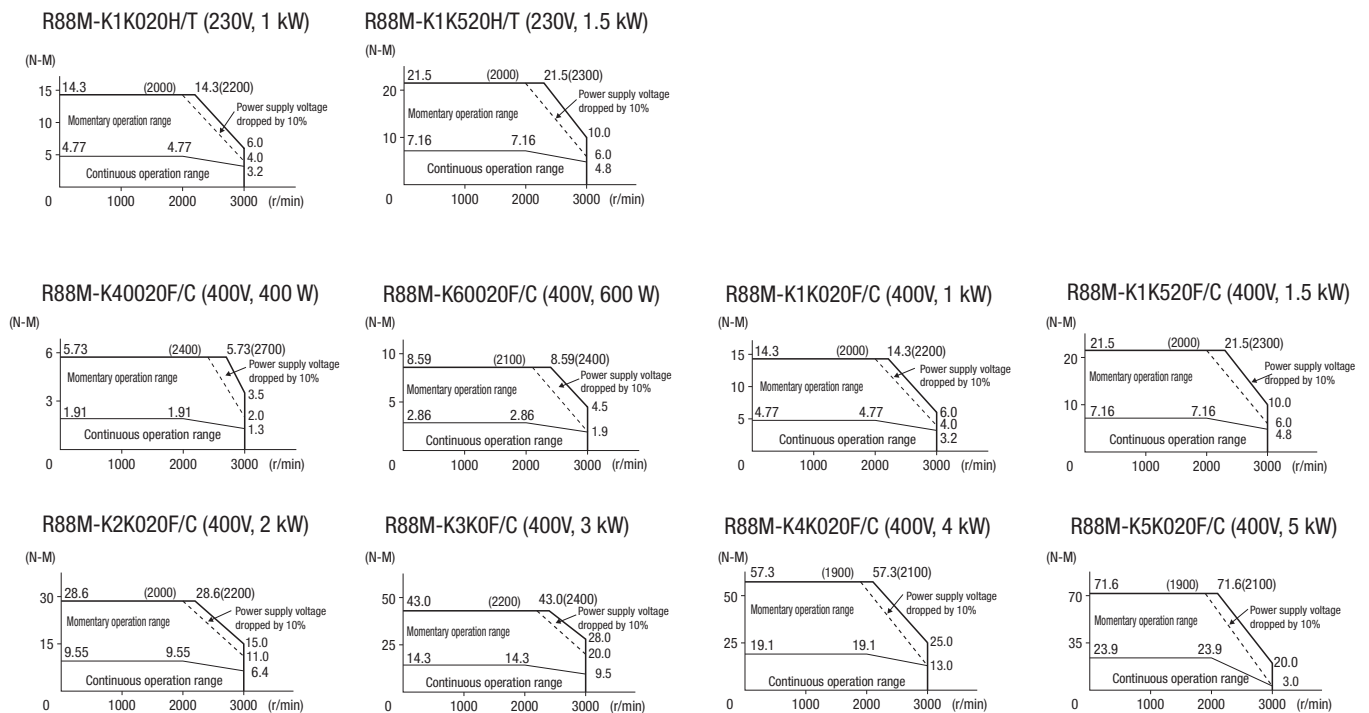


Servo motors 2000 r/min, 230V/ 400 V

Ratings and specifications

Voltage		230 V					400 V				
Servo motor model	20-bit incremental encoder	1K020H-□	1K520H-□	40020F-□	60020F-□	1K020F-□	1K520F-□	2K020F-□	3K020F-□	4K020F-□	5K020F-□
R88M-K□	17-bit absolute encoder	1K020T-□	1K520T-□	40020C-□	60020C-□	1K020C-□	1K520C-□	2K020C-□	3K020C-□	4K020C-□	5K020C-□
Rated output	W	1000	1500	400	600	1000	1500	2000	3000	4000	5000
Rated torque	N·m	4.77	7.16	1.91	2.86	4.77	7.16	9.55	14.3	19.1	23.9
Instantaneous peak torque	N·m	14.3	21.5	5.73	8.59	14.3	21.5	28.7	43	57.3	71.6
Rated current	A (rms)	5.7	9.4	1.2	1.5	2.8	4.7	5.9	8.7	10.6	13
Instantaneous max. current	A (rms)	24	40	4.9	6.5	12	20	25	37	45	55
Rated speed	min ⁻¹	2000									
Max. speed	min ⁻¹	3000									
Torque constant	N·m/A (rms)	0.63	0.58	1.27	1.38	1.27	1.16	1.27	1.18	1.40	1.46
Rotor moment of inertia (JM)	kg·m ² ×10 ⁻⁴ (without brake)	4.60	6.70	1.61	2.03	4.60	6.70	8.72	12.9	37.6	48
	kg·m ² ×10 ⁻⁴ (with brake)	5.90	7.99	1.90	2.35	5.90	7.99	10	14.2	38.6	48.8
Max. load moment of inertia (JL)	Multiple of (JM)	10									
Rated power rate	kW/s (without brake)	49.5	76.5	22.7	40.3	49.5	76.5	105	159	97.1	119
	kW/s (with brake)	38.6	64.2	19.2	34.8	38.6	64.2	91.2	144	94.5	117
Allowable radial load	N	490					784				
Allowable thrust load	N	196					343				
Approx. mass	kg (without brake)	5.2	6.7	3.1	3.5	5.2	6.7	8	11	15.5	18.6
	kg (with brake)	6.7	8.2	4.1	4.5	6.7	8.2	9.5	12.6	18.7	21.8
Brake specifications	Rated voltage	24VDC ±10%									
	Holding brake moment inertia (J) kg·m ² ×10 ⁻⁴	1.35									4.7
	Power consumption (20°C)	W	14	19	17	14	19	22	31		
	Current consumption (20°C)	A	0.59±10%	0.79±10%	0.70±10%	0.59±10%	0.79±10%	0.90±10%	1.3±10%	1.3±10%	
	Static friction torque	N·m (minimum)	4.9	13.7	2.5	4.9	13.7	16.2	24.5		
	Rise time for holding torque	ms (max.)	80	100	50	80	100	110	80		
Release time	ms (max)	70	50	15	70	50	25				
Time Rating	Continuous										
Insulation class	TypeF										
Ambient operating/ storage temperature	0 to +40 °C/ -20 to 85°C										
Ambient operating/ storage humidity	20% to 85% (non-condensing)										
Vibration class	V-15										
Insulation resistance	20 MΩ min. at 500 VDC between the power terminals and FG terminal										
Enclosure	Totally-enclosed, self-cooling, IP67 (excluding shaft opening)										
Vibration resistance	Vibration acceleration 49 m/s ²										
Mounting	Flange-mounted										

Torque-speed characteristics



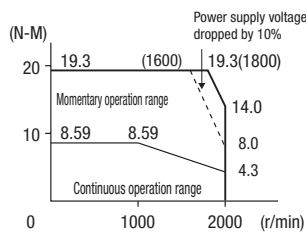
Servo motors 1000 r/min, 230V/ 400 V

Ratings and specifications

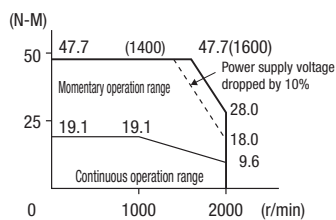
Applied voltage		230 V	400 V		
Servo motor model R88M-K□	20-bit incremental encoder	90010H-□	90010F-□	2K010F-□	3K010F-□
	17-bit absolute encoder	90010T-□	90010C-□	2K010C-□	3K010C-□
Rated output	W	900	900	2000	3000
Rated torque	N·m	8.59		19.1	28.7
Instantaneous peak torque	N·m	19.3		47.7	71.7
Rated current	A (rms)	7.6	3.8	8.5	11.3
Instantaneous max. current	A (rms)	24	12	30	40
Rated speed	min ⁻¹	1000			
Max. speed	min ⁻¹	2000			
Torque constant	N·m/A (rms)	0.86	1.72	1.76	1.92
Rotor moment of inertia (JM)	kg·m ² ×10 ⁻⁴ (without brake)	6.70		30.3	48.4
	kg·m ² ×10 ⁻⁴ (with brake)	7.99		31.4	49.2
Allowable load moment of inertia (JL)	Multiple of (JM)	10			
Rated power rate	kW/s (without brake)	110		120	170
	kW/s (with brake)	92.4		116	167
Allowable radial load	N	686		1176	1470
Allowable thrust load	N	196		490	
Approx. mass	kg (without brake)	6.7		14	20
	kg (with brake)	8.2		17.5	23.5
Brake specifications	Rated voltage	24VDC ±10%			
	Holding brake moment of inertia J	kg·m ² ×10 ⁻⁴		4.7	
	Power consumption (at 20°C)	W		31	34
	Current consumption (at 20°C)	A		1.3±10%	1.4±10%
	Static friction torque	N·m (minimum)		24.5	58.8
	Rise time for holding torque	ms (max.)		80	150
Release time	ms (max)		50	25	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	20% to 85% RH (non-condensing)			
	Vibration class	V-15			
	Insulation resistance	20 MΩ min. at 500 VDC between the power terminals and FG terminal			
	Enclosure	Totally-enclosed, self-cooling, IP67 (excluding shaft opening)			
Vibration resistance	Vibration acceleration 49 m/s ²				
Mounting	Flange-mounted				

Torque-speed characteristics

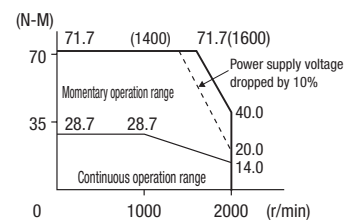
R88M-K90010H/T/F/C



R88M-K2K010F/C



R88M-K3K010F/C

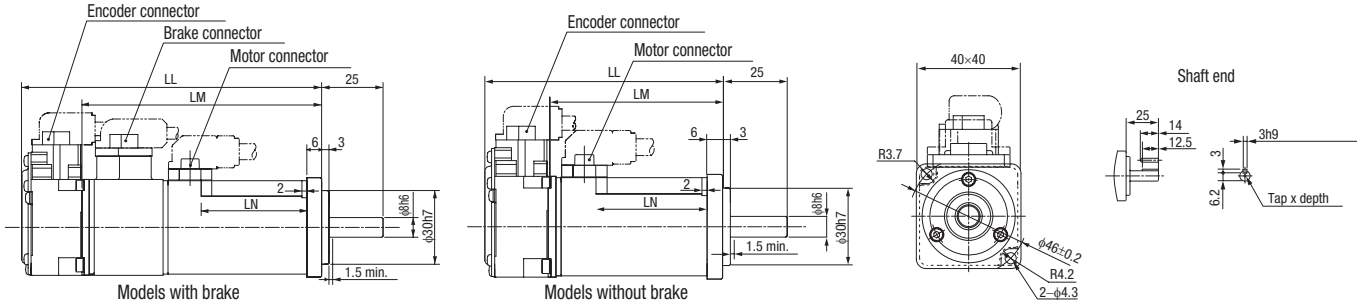


Dimensions

Servomotors

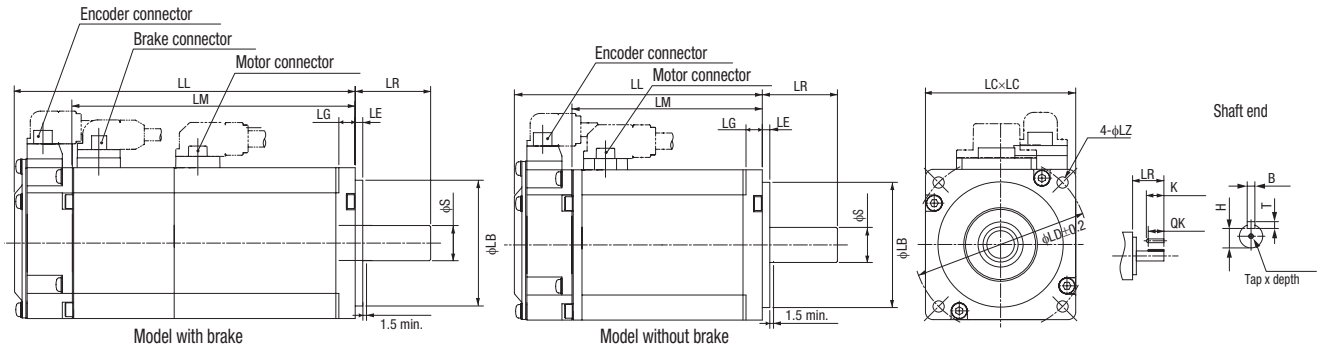
Type 3000 r/min motors (230 V, 50 - 100 W)

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



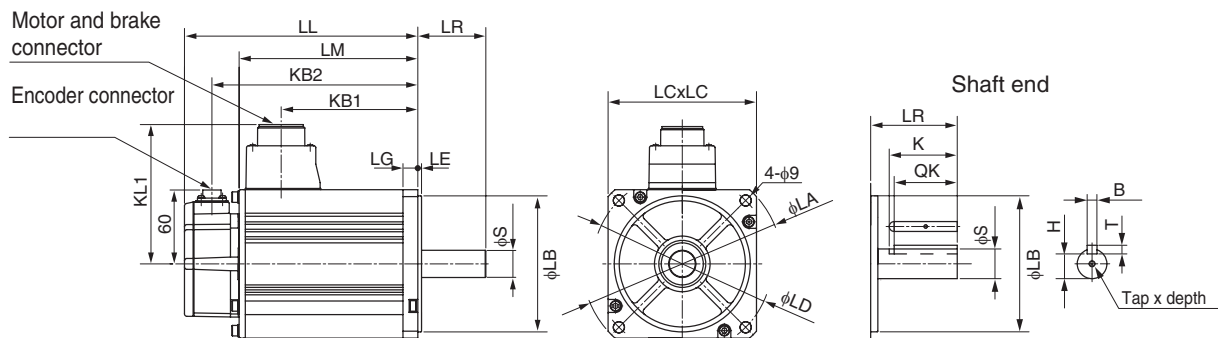
Type 3000 r/min motors (230 V, 200 - 750 W)

Dimensions (mm)	Without brake		With brake		LR	Flange surface						Shaft End Dimensions						Approx. Mass Kg		
	LL	LM	LL	LM		LB	LC	LD	LE	LG	LZ	S	K	QK	H	B	T	Tap x Depth	Without brake	With brake
R88M-K20030(H/T)-□S2	79.5	56.5	116	93	30	50 ^{h7}	60	70	3	6.5	4.5	11 ^{h6}	20	18	8.5	4 ^{h9}	4	M4x8L	0.82	1.3
R88M-K40030(H/T)-□S2	99	76	135.5	112.5								14 ^{h6}	25	22.5	11	5 ^{h9}	5	M5x10L	1.2	1.7
R88M-K75030(H/T)-□S2	112.2	86.2	148.2	122.2	35	70 ^{h7}	80	90		8	6	19 ^{h6}		22	15.5	6 ^{h9}	6		2.3	3.1



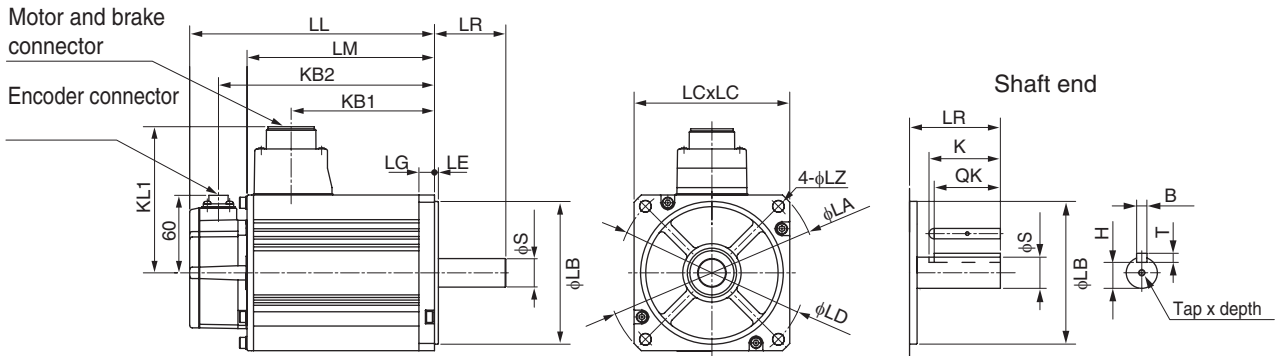
Type 3000 r/min motors (230 V, 1 - 1.5 kW/ 400V, 750 W - 5 kW)

Voltage	Model	Without brake					With brake					LR	Flange surface						Shaft End Dimensions						Approx. Mass (Kg)		
		LL	LM	KB1	KB2	KL1	LL	LM	KB1	KB2	KL1		LA	LB	LC	LD	LE	LG	S	Tap x Depth	K	QK	H	B	T	Without brake	With brake
230	1K030(H/T)-□S2	141	97	66	119	101	168	124	66	146	101	55	135	95 ^{h7}	100	115	3	10	19 ^{h6}	M5x12L	45	42	15.5	6 ^{h9}	6	3.5	4.5
	1K530(H/T)-□S2	159.5	115.5	84.5	137.5		186.5	142.5	84.5	164.5																4.4	5.4
400	75030(F/C)-□S2	131.5	87.5	56.5	109.5		158.5	114.5	53.5	136.5	103	65	165	130	6	12	22 ^{h6}	M8x20L	55	51	20	8 ^{h9}	7	3.1	4.1		
	1K030(F/C)-□S2	141	97	66	119		168	124	63	146														3.5	4.5		
	1K530(F/C)-□S2	159.5	115.5	84.5	137.5		186.5	142.5	81.5	164.5														4.4	5.4		
	2K030(F/C)-□S2	178.5	134.5	103.5	156.5		205.5	161.5	100.5	183.5														5.3	6.3		
	3K030(F/C)-□S2	190	146	112	168	113	215	171	112	193	113													162	110 ^{h7}	120	145
4K030(F/C)-□S2	208	164	127	186	118	233	189	127	211	118	165		130		6	24 ^{h6}	M8x20L	55	51	20	8 ^{h9}	7	11	12.6			
5K030(F/C)-□S2	243	199	162	221		268	224	162	246																14	16	



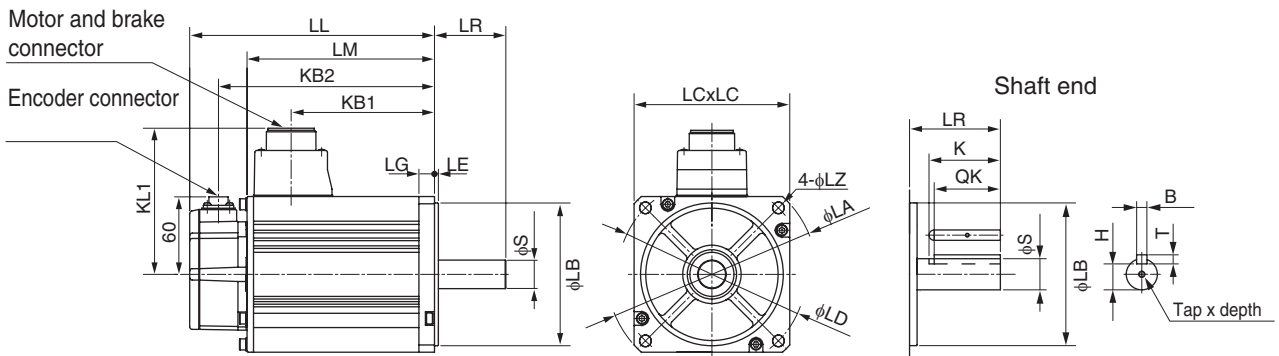
Type 2000 r/min motors (230 V, 1 - 1.5 kW / 400 V, 400W - 5 kW)

Dimensions (mm)		Without brake					With brake					LR	Flange surface							Shaft End Dimensions					Approx. Mass (Kg)			
Voltage	Model	LL	LM	KB1	KB2	KL1	LL	LM	KB1	KB2	KL1		LA	LB	LC	LD	LE	LG	LZ	S	Tap x Depth	K	QK	H	B	T	Without brake	With brake
230	1K020(H/T)-□S2	138	94	60	116	116	163	119	60	141	116	55	165	110 ^{h7}	130	145	6	12	9	22 ^{h6}	M5x12L	45	41	18	8 ^{h9}	7	5.2	6.7
	1K520(H/T)-□S2	155.5	111.5	77.5	133.5	101	180.5	136.5	77.5	158.5	103	70	165	110 ^{h7}	130	145	6	12	9	22 ^{h6}	M5x12L	45	41	18	8 ^{h9}	7	6.7	8.2
400	40020(F/C)-□S2	131.5	87.5	56.5	109.5	101	158.5	114.5	53.5	136.5	103	70	135	95 ^{h7}	100	115	3	10	10	19 ^{h6}	M5x12L	45	42	15.5	6 ^{h9}	6	3.1	4.1
	60020(F/C)-□S2	141	97	66	119	116	168	124	63	146	118	70	135	95 ^{h7}	100	115	3	10	10	19 ^{h6}	M5x12L	45	42	15.5	6 ^{h9}	6	3.5	4.5
	1K020(F/C)-□S2	138	94	60	116	116	163	119	57	141	118	70	165	110 ^{h7}	130	145	6	12	9	22 ^{h6}	M5x12L	45	41	18	8 ^{h9}	7	5.2	6.7
	1K520(F/C)-□S2	155.5	111.5	77.5	133.5	101	180.5	136.5	74.5	158.5	103	70	165	110 ^{h7}	130	145	6	12	9	22 ^{h6}	M5x12L	45	41	18	8 ^{h9}	7	6.7	8.2
	2K020(F/C)-□S2	173	129	95	151	116	198	154	92	176	118	70	165	110 ^{h7}	130	145	6	12	9	22 ^{h6}	M5x12L	45	41	18	8 ^{h9}	7	8	9.5
	3K020(F/C)-□S2	208	164	127	186	118	233	189	127	211	118	70	165	110 ^{h7}	130	145	6	12	9	22 ^{h6}	M5x12L	45	41	18	8 ^{h9}	7	11	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}	M12x25L	55	51	20	10 ^{h9}	8	15.5	18.7
5K020(F/C)-□S2	196	152	115	174	140	221	177	115	199	140	70	233	114.3 ^{h7}	176	200	3.2	18	13.5	35 ^{h6}	M12x25L	55	50	30	10 ^{h9}	8	18.6	21.8	



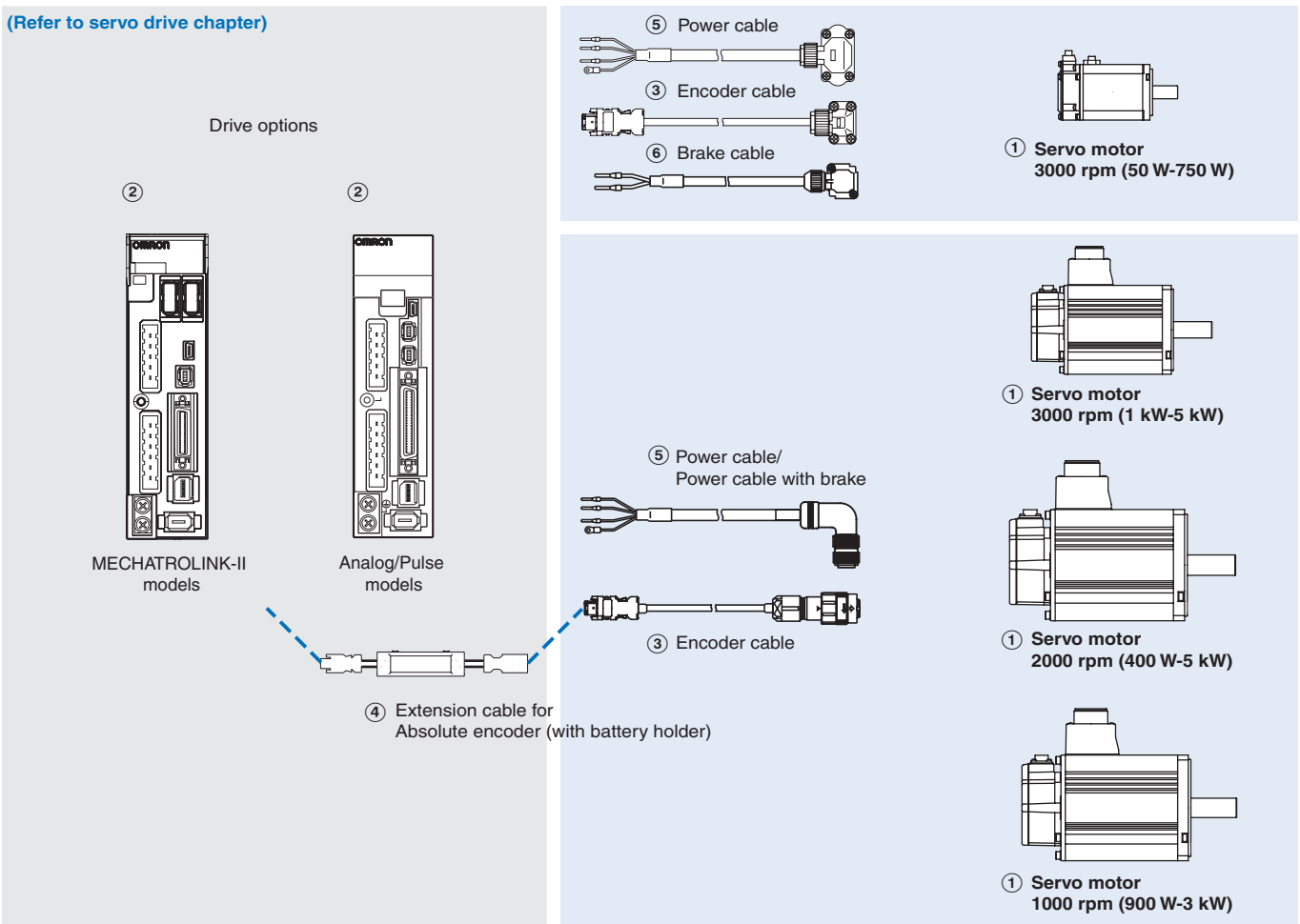
Type 1000 r/min motors (230 V, 900W / 400 V, 900W - 3 kW)

Dimensions (mm)		Without brake					With brake					LR	Flange surface							Shaft End Dimensions					Approx. Mass (Kg)			
Voltage	Model	LL	LM	KB1	KB2	KL1	LL	LM	KB1	KB2	KL1		LA	LB	LC	LD	LE	LG	LZ	S	Tap x Depth	K	QK	H	B	T	Without brake	With brake
230	90010(H/T)-□S2	155.5	111.5	77.5	133.5	116	180.5	136.5	77.5	158.5	116	70	165	110 ^{h7}	130	145	6	12	9	22 ^{h6}	M5x12L	45	41	18	8 ^{h9}	7	6.7	8.2
400	90010(F/C)-□S2	141	97	66	119	101	158.5	114.5	53.5	136.5	103	70	135	95 ^{h7}	100	115	3	10	10	19 ^{h6}	M5x10L	45	42	15.5	6 ^{h9}	6	3.1	4.1
	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}	M12x25L	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}	M12x25L	55	50	30	10 ^{h9}	8	20	23.5



Ordering information

(Refer to servo drive chapter)



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 chapter for detailed drive specifications and selection of drive accessories.

Servo motors 3000 r/min (50 - 5000 W)


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	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	0.16 Nm	50 W	R88M-K05030H-S2	R88D-KN01H-ML2	R88D-KT01H
				0.32 Nm	100 W	R88M-K10030H-S2	R88D-KN01H-ML2	R88D-KT01H
0.64 Nm				200 W	R88M-K20030H-S2	R88D-KN02H-ML2	R88D-KT02H	
1.3 Nm				400 W	R88M-K40030H-S2	R88D-KN04H-ML2	R88D-KT04H	
2.4 Nm				750 W	R88M-K75030H-S2	R88D-KN08H-ML2	R88D-KT08H	
3.18 Nm				1000 W	R88M-K1K030H-S2	R88D-KN15H-ML2	R88D-KT15H	
4.77 Nm				1500 W	R88M-K1K530H-S2	R88D-KN15H-ML2	R88D-KT15H	
With brake		0.16 Nm	50 W	R88M-K05030H-BS2	R88D-KN01H-ML2	R88D-KT01H		
		0.32 Nm	100 W	R88M-K10030H-BS2	R88D-KN01H-ML2	R88D-KT01H		
		0.64 Nm	200 W	R88M-K20030H-BS2	R88D-KN02H-ML2	R88D-KT02H		
		1.3 Nm	400 W	R88M-K40030H-BS2	R88D-KN04H-ML2	R88D-KT04H		
		2.4 Nm	750 W	R88M-K75030H-BS2	R88D-KN08H-ML2	R88D-KT08H		
		3.18 Nm	1000 W	R88M-K1K030H-BS2	R88D-KN15H-ML2	R88D-KT15H		
		4.77 Nm	1500 W	R88M-K1K530H-BS2	R88D-KN15H-ML2	R88D-KT15H		
230 V (1000 - 1500 W) 400 V (750 - 5000 W)	Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	0.16 Nm	50 W	R88M-K05030T-S2	R88D-KN01H-ML2	R88D-KT01H	
			0.32 Nm	100 W	R88M-K10030T-S2	R88D-KN01H-ML2	R88D-KT01H	
			0.64 Nm	200 W	R88M-K20030T-S2	R88D-KN02H-ML2	R88D-KT02H	
			1.3 Nm	400 W	R88M-K40030T-S2	R88D-KN04H-ML2	R88D-KT04H	
			2.4 Nm	750 W	R88M-K75030T-S2	R88D-KN08H-ML2	R88D-KT08H	
			3.18 Nm	1000 W	R88M-K1K030T-S2	R88D-KN15H-ML2	R88D-KT15H	
			4.77 Nm	1500 W	R88M-K1K530T-S2	R88D-KN15H-ML2	R88D-KT15H	
	With brake	0.16 Nm	50 W	R88M-K05030T-BS2	R88D-KN01H-ML2	R88D-KT01H		
		0.32 Nm	100 W	R88M-K10030T-BS2	R88D-KN01H-ML2	R88D-KT01H		
		0.64 Nm	200 W	R88M-K20030T-BS2	R88D-KN02H-ML2	R88D-KT02H		
		1.3 Nm	400 W	R88M-K40030T-BS2	R88D-KN04H-ML2	R88D-KT04H		
		2.4 Nm	750 W	R88M-K75030T-BS2	R88D-KN08H-ML2	R88D-KT08H		
		3.18 Nm	1000 W	R88M-K1K030T-BS2	R88D-KN15H-ML2	R88D-KT15H		
		4.77 Nm	1500 W	R88M-K1K530T-BS2	R88D-KN15H-ML2	R88D-KT15H		
400 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	2.39 Nm	750 W	R88M-K75030F-S2	R88D-KN10F-ML2	R88D-KT10F	
			3.18 Nm	1000 W	R88M-K1K030F-S2	R88D-KN15F-ML2	R88D-KT15F	
			4.77 Nm	1500 W	R88M-K1K530F-S2	R88D-KN15F-ML2	R88D-KT15F	
			6.37 Nm	2000 W	R88M-K2K030F-S2	R88D-KN20F-ML2	R88D-KT20F	
			9.55 Nm	3000 W	R88M-K3K030F-S2	R88D-KN30F-ML2	R88D-KT30F	
			12.7 Nm	4000 W	R88M-K4K030F-S2	R88D-KN50F-ML2	R88D-KT50F	
			15.9 Nm	5000 W	R88M-K5K030F-S2	R88D-KN50F-ML2	R88D-KT50F	
	With brake	2.39 Nm	750 W	R88M-K75030F-BS2	R88D-KN10F-ML2	R88D-KT10F		
		3.18 Nm	1000 W	R88M-K1K030F-BS2	R88D-KN15F-ML2	R88D-KT15F		
		4.77 Nm	1500 W	R88M-K1K530F-BS2	R88D-KN15F-ML2	R88D-KT15F		
		6.37 Nm	2000 W	R88M-K2K030F-BS2	R88D-KN20F-ML2	R88D-KT20F		
		9.55 Nm	3000 W	R88M-K3K030F-BS2	R88D-KN30F-ML2	R88D-KT30F		
		12.7 Nm	4000 W	R88M-K4K030F-BS2	R88D-KN50F-ML2	R88D-KT50F		
		15.9 Nm	5000 W	R88M-K5K030F-BS2	R88D-KN50F-ML2	R88D-KT50F		
Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	2.39 Nm	750 W	R88M-K75030C-S2	R88D-KN10F-ML2	R88D-KT10F		
		3.18 Nm	1000 W	R88M-K1K030C-S2	R88D-KN15F-ML2	R88D-KT15F		
		4.77 Nm	1500 W	R88M-K1K530C-S2	R88D-KN15F-ML2	R88D-KT15F		
		6.37 Nm	2000 W	R88M-K2K030C-S2	R88D-KN20F-ML2	R88D-KT20F		
		9.55 Nm	3000 W	R88M-K3K030C-S2	R88D-KN30F-ML2	R88D-KT30F		
		12.7 Nm	4000 W	R88M-K4K030C-S2	R88D-KN50F-ML2	R88D-KT50F		
		15.9 Nm	5000 W	R88M-K5K030C-S2	R88D-KN50F-ML2	R88D-KT50F		
	With brake	2.39 Nm	750 W	R88M-K75030C-BS2	R88D-KN10F-ML2	R88D-KT10F		
		3.18 Nm	1000 W	R88M-K1K030C-BS2	R88D-KN15F-ML2	R88D-KT15F		
		4.77 Nm	1500 W	R88M-K1K530C-BS2	R88D-KN15F-ML2	R88D-KT15F		
		6.37 Nm	2000 W	R88M-K2K030C-BS2	R88D-KN20F-ML2	R88D-KT20F		
		9.55 Nm	3000 W	R88M-K3K030C-BS2	R88D-KN30F-ML2	R88D-KT30F		
		12.7 Nm	4000 W	R88M-K4K030C-BS2	R88D-KN50F-ML2	R88D-KT50F		
		15.9 Nm	5000 W	R88M-K5K030C-BS2	R88D-KN50F-ML2	R88D-KT50F		

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	
	230 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	4.77 Nm	1000 W	R88M-K1K020H-S2	R88D-KN10H-ML2	R88D-KT10H	
			With brake	7.16 Nm	1500 W	R88M-K1K520H-S2	R88D-KN15H-ML2	R88D-KT15H	
			Without brake	4.77 Nm	1000 W	R88M-K1K020H-BS2	R88D-KN10H-ML2	R88D-KT10H	
			With brake	7.16 Nm	1500 W	R88M-K1K520H-BS2	R88D-KN15H-ML2	R88D-KT15H	
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	4.77 Nm	1000 W	R88M-K1K020T-S2	R88D-KN10H-ML2	R88D-KT10H	
			With brake	7.16 Nm	1500 W	R88M-K1K520T-S2	R88D-KN15H-ML2	R88D-KT15H	
			Without brake	4.77 Nm	1000 W	R88M-K1K020T-BS2	R88D-KN10H-ML2	R88D-KT10H	
			With brake	7.16 Nm	1500 W	R88M-K1K520T-BS2	R88D-KN15H-ML2	R88D-KT15H	
		400 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	1.91 Nm	400 W	R88M-K40020F-S2	R88D-KN06F-ML2	R88D-KT06F
					2.86 Nm	600 W	R88M-K60020F-S2	R88D-KN06F-ML2	R88D-KT06F
					4.77 Nm	1000 W	R88M-K1K020F-S2	R88D-KN10F-ML2	R88D-KT10F
					7.16 Nm	1500 W	R88M-K1K520F-S2	R88D-KN15F-ML2	R88D-KT15F
	9.55 Nm				2000 W	R88M-K2K020F-S2	R88D-KN20F-ML2	R88D-KT20F	
	14.3 Nm				3000 W	R88M-K3K020F-S2	R88D-KN30F-ML2	R88D-KT30F	
	With brake			1.91 Nm	400 W	R88M-K40020F-BS2	R88D-KN06F-ML2	R88D-KT06F	
				2.86 Nm	600 W	R88M-K60020F-BS2	R88D-KN06F-ML2	R88D-KT06F	
				4.77 Nm	1000 W	R88M-K1K020F-BS2	R88D-KN10F-ML2	R88D-KT10F	
				7.16 Nm	1500 W	R88M-K1K520F-BS2	R88D-KN15F-ML2	R88D-KT15F	
				9.55 Nm	2000 W	R88M-K2K020F-BS2	R88D-KN20F-ML2	R88D-KT20F	
				14.3 Nm	3000 W	R88M-K3K020F-BS2	R88D-KN30F-ML2	R88D-KT30F	
	Absolute encoder (17 bit) Straight shaft with key and tap		Without brake	1.91 Nm	400 W	R88M-K40020C-S2	R88D-KN06F-ML2	R88D-KT06F	
				2.86 Nm	600 W	R88M-K60020C-S2	R88D-KN06F-ML2	R88D-KT06F	
				4.77 Nm	1000 W	R88M-K1K020C-S2	R88D-KN10F-ML2	R88D-KT10F	
				7.16 Nm	1500 W	R88M-K1K520C-S2	R88D-KN15F-ML2	R88D-KT15F	
				9.55 Nm	2000 W	R88M-K2K020C-S2	R88D-KN20F-ML2	R88D-KT20F	
				14.3 Nm	3000 W	R88M-K3K020C-S2	R88D-KN30F-ML2	R88D-KT30F	
			With brake	1.91 Nm	400 W	R88M-K40020C-BS2	R88D-KN06F-ML2	R88D-KT06F	
				2.86 Nm	600 W	R88M-K60020C-BS2	R88D-KN06F-ML2	R88D-KT06F	
4.77 Nm				1000 W	R88M-K1K020C-BS2	R88D-KN10F-ML2	R88D-KT10F		
7.16 Nm				1500 W	R88M-K1K520C-BS2	R88D-KN15F-ML2	R88D-KT15F		
9.55 Nm				2000 W	R88M-K2K020C-BS2	R88D-KN20F-ML2	R88D-KT20F		
14.3 Nm				3000 W	R88M-K3K020C-BS2	R88D-KN30F-ML2	R88D-KT30F		



AC Servo systems

Servo motors 1000 r/min (900 - 3000 W)

Symbol	Specifications				Servo motor model	Compatible servo drives (2)		
	Voltage	Encoder and design		Rated torque		Capacity	G5 MECHATROLINK-II	G5 Analog/Pulse
	230 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	8.59 Nm	900 W	R88M-K90010H-S2	R88D-KN15H-ML2	R88D-KT15H
			With brake	8.59 Nm	900 W	R88M-K90010H-BS2	R88D-KN15H-ML2	R88D-KT15H
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	8.59 Nm	900 W	R88M-K90010T-S2	R88D-KN15H-ML2	R88D-KT15H
			With brake	8.59 Nm	900 W	R88M-K90010T-BS2	R88D-KN15H-ML2	R88D-KT15H
	400 V	Incremental encoder (20 bit) Straight shaft with key and tap	Without brake	8.59 Nm	900 W	R88M-K90010F-S2	R88D-KN15F-ML2	R88D-KT15F
				19.1 Nm	2000 W	R88M-K2K010F-S2	R88D-KN30F-ML2	R88D-KT30F
			With brake	8.59 Nm	900 W	R88M-K90010F-BS2	R88D-KN15F-ML2	R88D-KT15F
				19.1 Nm	2000 W	R88M-K2K010F-BS2	R88D-KN30F-ML2	R88D-KT30F
		Absolute encoder (17 bit) Straight shaft with key and tap	Without brake	8.59 Nm	900 W	R88M-K90010C-S2	R88D-KN15F-ML2	R88D-KT15F
				19.1 Nm	2000 W	R88M-K2K010C-S2	R88D-KN30F-ML2	R88D-KT30F
			With brake	8.59 Nm	900 W	R88M-K90010C-BS2	R88D-KN15F-ML2	R88D-KT15F
				19.1 Nm	2000 W	R88M-K2K010C-BS2	R88D-KN30F-ML2	R88D-KT30F

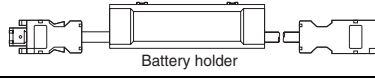
Encoder cables

for absolute and incremental encoders

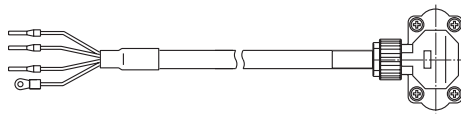
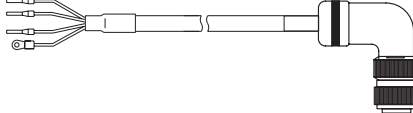
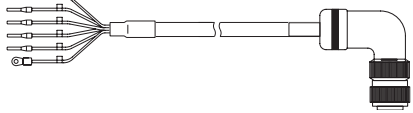

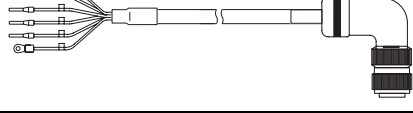
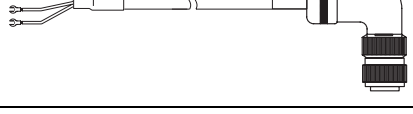
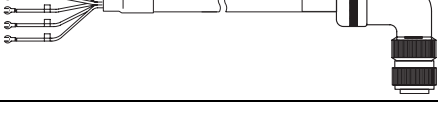
Symbol	Specifications	Model	Appearance	
③	Encoder cable for servomotors R88M-K(050/100/200/400/750)30(H/T)□	1.5 m	R88A-CRKA001-5CR-E	
		3 m	R88A-CRKA003CR-E	
		5 m	R88A-CRKA005CR-E	
		10 m	R88A-CRKA010CR-E	
		15 m	R88A-CRKA015CR-E	
		20 m	R88A-CRKA020CR-E	
	Encoder cable for servomotors R88M-K(1K0/1K5)30(H/T)□ R88M-K(750/1K0/1K5/2K0/3K0/4K0/5K0)30(F/C)□ R88M-K(400/600/1K0/1K5/2K0/3K0/4K0/5K0)20□ R88M-K(900/2K0/3K0)10□	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.

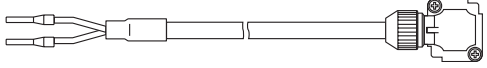
Absolute encoder battery cable (encoder extension cable only)

Symbol	Specifications	Model	Appearance	
④	Absolute encoder battery cable	Battery not included	0.3 m R88A-CRGD0R3C	
		Battery included (R88A-BAT01G)	0.3 m R88A-CRGD0R3C-BS	
	Absolute encoder backup battery	2,000 mA.h 3.6V	-	R88A-BAT01G

Power cables

Symbol	Specifications	Model	Appearance		
⑤	For 200 V servomotors R88M-K(050/100/200/400/750)30(H/T)□ Note: for servomotors with brake R88M-K(050/100/200/400/750)30(H/T)-BS2, 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		
	For 200 V servomotors R88M-K(1K0/1K5)30(H/T)□ R88M-K(1K0/1K5)20(H/T)□ R88M-K90010(H/T)□	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	
	For 400 V servomotors R88M-K(750/1K0/1K5/2K)30(F/C)□ R88M-K(400/600/1K0/1K5/2K0)20(F/C)□ R88M-K90010(F/C)□	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		
For 400 V servomotors R88M-K(3K0/4K0/5K0)30(F/C)□ R88M-K(3K0/4K0/5K0)20(F/C)□ R88M-K(2K0/3K0)10(F/C)□	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		

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

Symbol	Specifications	Model	Appearance	
⑥	Brake cable only. For 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	

Connectors for encoder, power and brake cables

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

- 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.