

R88M-1□

1S servo motor

Simplified machine design and maintenance

- 23-bit resolution encoder
- Compact and small motor size
- Multi-turn encoder design without mechanics: 16-bit, 65536 turns
- Battery-free absolute multi-turn encoder or incremental encoder
- Pre-assembled motor cables
- Designed for easy EMC compliance

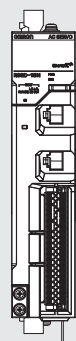
Ratings

- 230 VAC from 50 W to 1.5 kW
(rated torque from 0.159 to 8.59 Nm)
- 400 VAC from 400 W to 3 kW
(rated torque from 1.91 to 28.7 Nm)



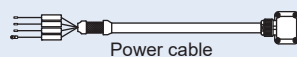
System configuration

(Refer to servo drive chapter)

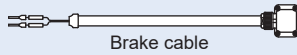


1S servo drive

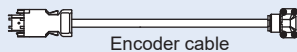
1S servo motor (Flange size 80 mm or less)



Power cable

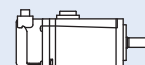


Brake cable



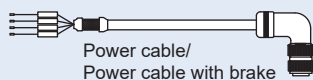
Encoder cable

SYSMAC
always in control

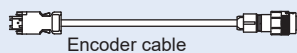


3000 rpm (50 W - 750 W)

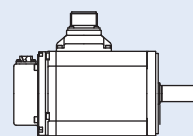
1S servo motor (Flange size 100 mm or more)



Power cable/
Power cable with brake




Encoder cable



3000 rpm (1 kW - 3 kW)
2000 rpm (400 W - 3 kW)
1000 rpm (900 W - 3 kW)

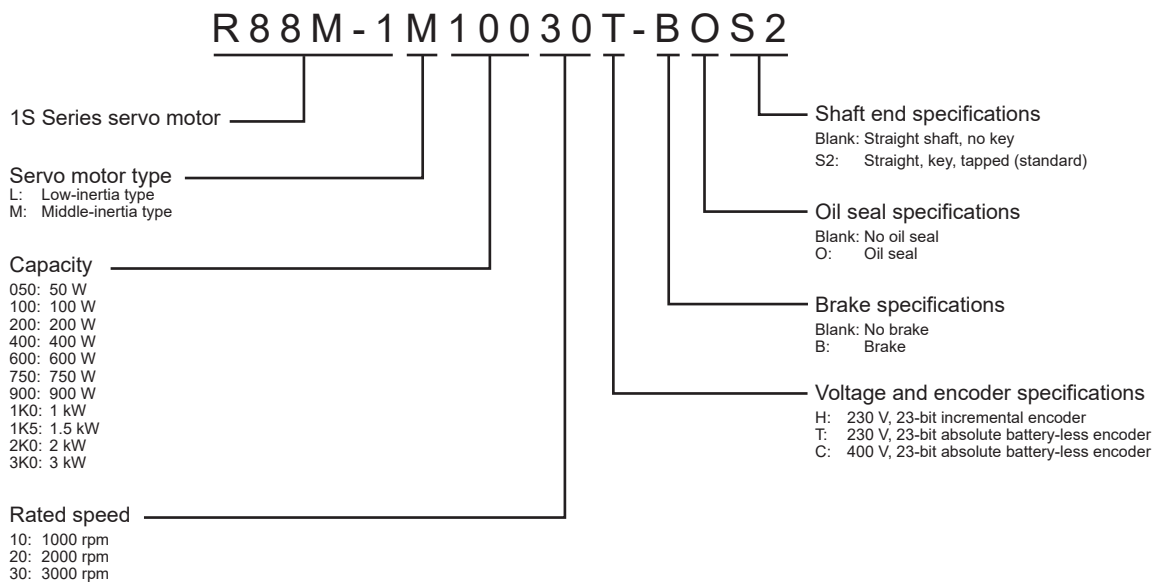
Servo motor / Servo drive combination

1S servo motor						1S servo drive		
Appearance	Speed	Voltage	Rated torque	Capacity	Model			
	3000 min ⁻¹	230 V	0.159 Nm	50 W	R88M-1M05030T-□	R88D-1SN01H-ECT		
			0.318 Nm	100 W	R88M-1M10030(H/T)-□	R88D-1SN01H-ECT		
			0.637 Nm	200 W	R88M-1M20030(H/T)-□	R88D-1SN02H-ECT		
			1.27 Nm	400 W	R88M-1M40030(H/T)-□	R88D-1SN04H-ECT		
			2.39 Nm	750 W	R88M-1M75030(H/T)-□	R88D-1SN08H-ECT		
			3.18 Nm	1 kW	R88M-1L1K030(H/T)-□	R88D-1SN15H-ECT		
			4.77 Nm	1.5 kW	R88M-1L1K530(H/T)-□	R88D-1SN15H-ECT		
		400 V	2.39 Nm	750 W	R88M-1L75030C-□	R88D-1SN10F-ECT		
			3.18 Nm	1 kW	R88M-1L1K030C-□	R88D-1SN10F-ECT		
			4.77 Nm	1.5 kW	R88M-1L1K530C-□	R88D-1SN15F-ECT		
	2000 min ⁻¹	230 V	4.77 Nm	1 kW	R88M-1M1K020(H/T)-□	R88D-1SN15H-ECT		
			7.16 Nm	1.5 kW	R88M-1M1K520(H/T)-□	R88D-1SN15H-ECT		
		400 V	1.91 Nm	400 W	R88M-1M40020C-□	R88D-1SN06F-ECT		
			2.86 Nm	600 W	R88M-1M60020C-□	R88D-1SN06F-ECT		
			4.77 Nm	1 kW	R88M-1M1K020C-□	R88D-1SN10F-ECT		
			7.16 Nm	1.5 kW	R88M-1M1K520C-□	R88D-1SN15F-ECT		
			9.55 Nm	2 kW	R88M-1M2K020C-□	R88D-1SN20F-ECT		
			14.3 Nm	3 kW	R88M-1M3K020C-□	R88D-1SN30F-ECT		
			1000 min ⁻¹	230 V	8.59 Nm	900 W	R88M-1M90010T-□	R88D-1SN15H-ECT
				400 V	8.59 Nm	900 W	R88M-1M90010C-□	R88D-1SN10F-ECT
	19.1 Nm	2 kW	R88M-1M2K010C-□		R88D-1SN20F-ECT			
		28.7 Nm	3 kW	R88M-1M3K010C-□	R88D-1SN30F-ECT			

Note: For servo motor and cable part numbers, refer to ordering information at the end of this chapter.

Note: Refer to the servo drive chapter for drive options selection and detailed specifications.

Type designation



Specifications

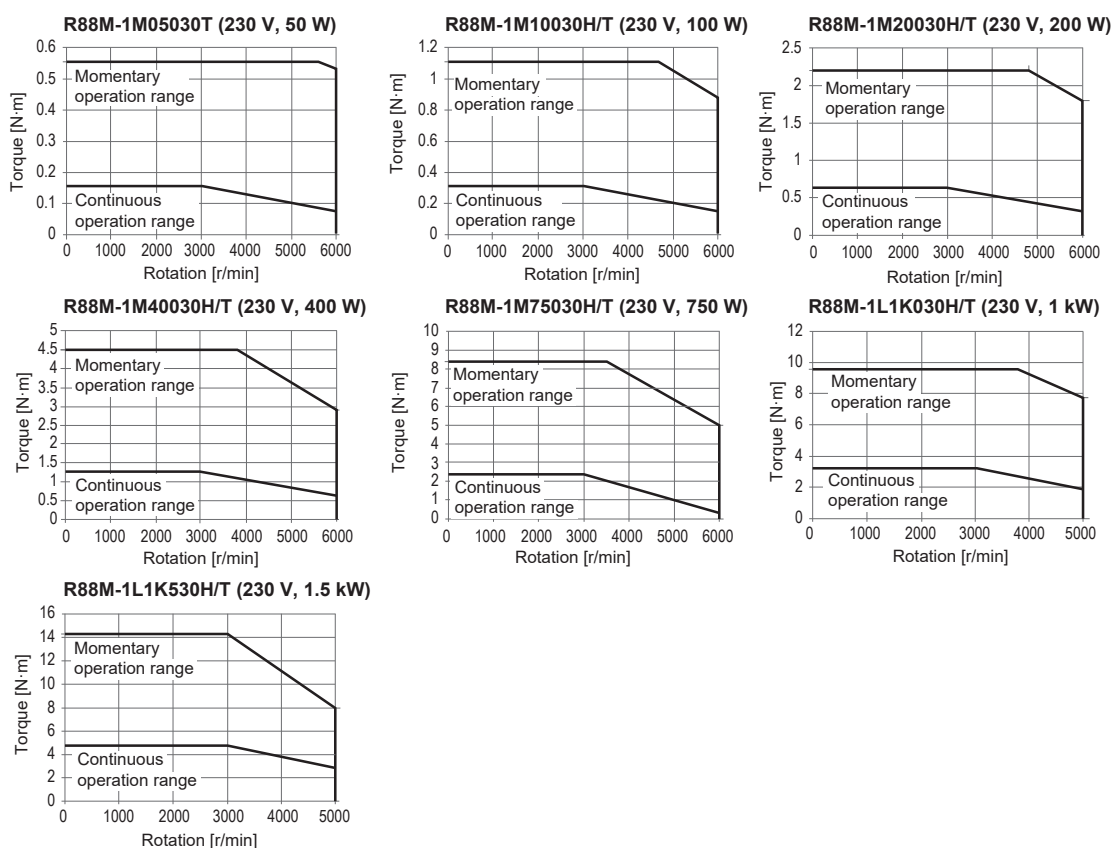
3000 r/min servo motors, 230 V

Ratings and specifications

Voltage		230 V							
Servo motor model: R88M-1□	23-bit incremental encoder	–	M10030H-□	M20030H-□	M40030H-□	M75030H-□	L1K030H-□	L1K530H-□	
	23-bit absolute encoder	M05030T-□	M10030T-□	M20030T-□	M40030T-□	M75030T-□	L1K030T-□	L1K530T-□	
Rated output	W	50	100	200	400	750	1000	1500	
Rated torque	Nm	0.159	0.318	0.637	1.27	2.39	3.18	4.77	
Instantaneous peak torque	Nm	0.56	1.11	2.2	4.5	8.4	9.55	14.3	
Rated current	A (rms)	0.67	0.84	1.5	2.5	4.6	5.2	8.8	
Instantaneous max. current	A (rms)	2.6	3.1	5.6	9.1	16.9	16.9	28.4	
Rated speed	min ⁻¹	3000							
Max. speed	min ⁻¹	6000					5000		
Torque constant	N·m/A	0.25	0.42	0.48	0.56	0.59	0.67	0.58	
Rotor moment of inertia	kg·m ² ×10 ⁻⁴ (without brake)	0.0418	0.089	0.2232	0.4452	1.8242	2.1042		
	kg·m ² ×10 ⁻⁴ (with brake)	0.0496	0.0968	0.2832	0.5052	2.0742	2.5542		
Electrical time constant	ms	0.67	0.83	2.4	2.6	3.3	5.9	6.1	
Allowable radial load	N	68		245		490			
Allowable thrust load	N	58		88		196			
Weight	kg (without brake)	0.35	0.52	1.0	1.4	2.9	5.7		
	kg (with brake)	0.59	0.77	1.3	1.9	3.9	7.4		
Brake specifications	Excitation voltage* ¹	24 VDC ±10%							
	Holding brake moment of inertia J	kg·m ² ×10 ⁻⁴		0.0078		0.06		0.25	0.45
	Current consumption (at 20°C)	A		0.27		0.32		0.37	0.70
	Static friction torque	Nm (minimum)		0.32		1.37		2.55	9.3
Basic specifications	Insulation class	Type F							
	Ambient operating/storage temperature	0 to 40°C/-20 to 65°C							
	Ambient operating/storage humidity	20 to 90% (non-condensing)							
	Atmosphere	No corrosive gases							
	Insulation resistance	10 MΩ min. at 500 VDC between the power terminals and FG terminal							
	Vibration resistance	Vibration acceleration of 49 m/s ²							
	Impact resistance	Acceleration of 98 m/s ² max. 3 times each in X, Y and Z directions							
Enclosure	IP67 (except for through-shaft parts when connectors are inserted)								

*¹ This is a non-excitable brake (it is released when excitation voltage is applied).

Torque-speed characteristics



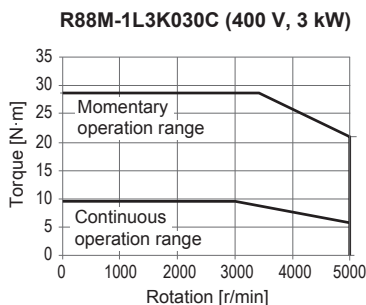
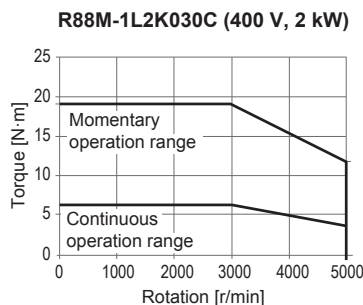
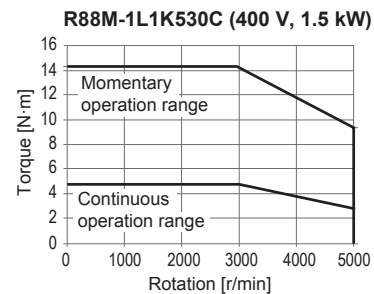
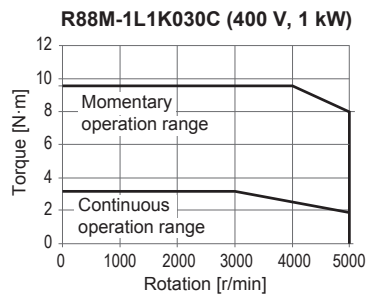
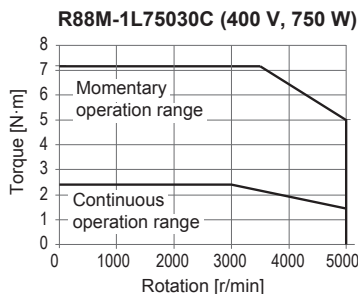
3000 r/min servo motors, 400 V

Ratings and specifications

Voltage		400 V				
Servo motor model: R88M-1□	23-bit absolute encoder	L75030C-□	L1K030C-□	L1K530C-□	L2K030C-□	L3K030C-□
Rated output	W	750	1000	1500	2000	3000
Rated torque	Nm	2.39	3.18	4.77	6.37	9.55
Instantaneous peak torque	Nm	7.16	9.55	14.3	19.1	28.7
Rated current	A (rms)	3.0	3.0	4.5	6.3	8.2
Instantaneous max. current	A (rms)	9.6	9.6	14.1	19.8	27.7
Rated speed	min ⁻¹	3000				
Max. speed	min ⁻¹	5000				
Torque constant	N·m/A	0.91	1.17	1.17	1.15	1.23
Rotor moment of inertia	kg·m ² ×10 ⁻⁴ (without brake)	1.3042	2.1042		2.4042	6.8122
	kg·m ² ×10 ⁻⁴ (with brake)	1.7542	2.5542		2.8542	7.3122
Electrical time constant	ms	4.3	5.9		6.3	11.0
Allowable radial load	N	490				
Allowable thrust load	N	196				
Weight	kg (without brake)	4.1	5.7		6.4	11.5
	kg (with brake)	5.8	7.4		8.1	12.5
Brake specifications	Excitation voltage* ¹	24 VDC ±10%				
	Holding brake moment of inertia J	0.45				0.50
	Current consumption (at 20°C)	0.70				0.66
	Static friction torque	9.3				12.0
Basic specifications	Insulation class	Type F				
	Ambient operating/storage temperature	0 to 40°C/-20 to 65°C				
	Ambient operating/storage humidity	20 to 90% (non-condensing)				
	Atmosphere	No corrosive gases				
	Insulation resistance	10 MΩ min. at 500 VDC between the power terminals and FG terminal				
	Vibration resistance	Vibration acceleration of 49 m/s ²				
	Impact resistance	Acceleration of 98 m/s ² max. 3 times each in X, Y and Z directions				
	Enclosure	IP67 (except for through-shaft parts when connectors are inserted)				

*¹ This is a non-excitable brake (it is released when excitation voltage is applied).

Torque-speed characteristics



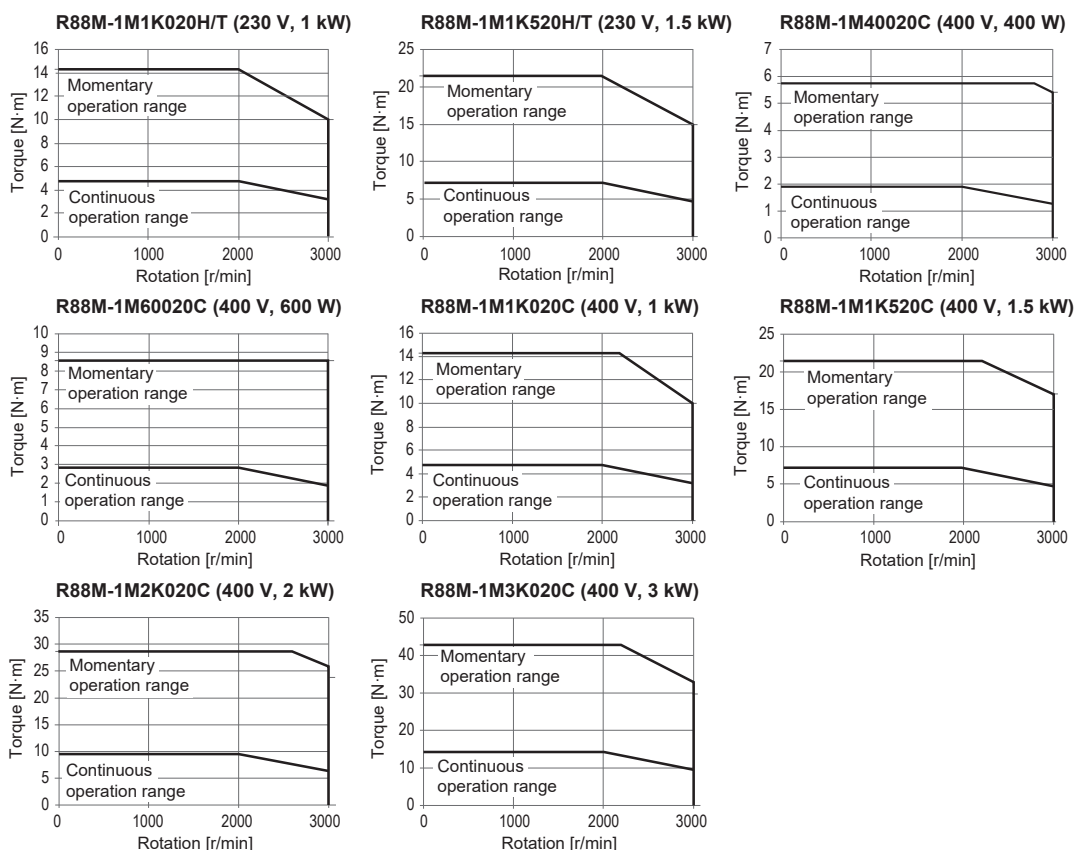
2000 r/min servo motors, 230 V/400 V

Ratings and specifications

Voltage		230 V		400 V						
Servo motor model: R88M-1□	23-bit incremental encoder	M1K020H-□	M1K520H-□							
	23-bit absolute encoder	M1K020T-□	M1K520T-□	M40020C-□	M60020C-□	M1K020C-□	M1K520C-□	M2K020C-□	M3K020C-□	
Rated output	W	1000	1500	400	600	1000	1500	2000	3000	
Rated torque	Nm	4.77	7.16	1.91	2.86	4.77	7.16	9.55	14.3	
Instantaneous peak torque	Nm	14.3	21.5	5.73	8.59	14.3	21.5	28.7	43.0	
Rated current	A (rms)	5.2	8.6	1.1	1.6	2.9	4.1	5.7	8.6	
Instantaneous max. current	A (rms)	16.9	28.4	3.9	5.5	9.4	13.5	19.8	28.3	
Rated speed	min ⁻¹	2000								
Max. speed	min ⁻¹	3000								
Torque constant	N·m/A	0.93	0.83	1.75	1.84	1.69	1.75		1.74	
Rotor moment of inertia	kg·m ² ×10 ⁻⁴ (without brake)	6.0042	9.0042	2.5042	3.9042	6.0042	9.0042	12.2042	15.3122	
	kg·m ² ×10 ⁻⁴ (with brake)	6.5042	9.5042	2.8472	4.2472	6.5042	9.5042	12.7042	17.4122	
Electrical time constant	ms	13.0	15.0	6.8	7.8	13.0	13.0	14.0	20.0	
Allowable radial load	N	490							784	
Allowable thrust load	N	196							343	
Weight	kg (without brake)	6.6	8.5	3.9	4.7	6.6	8.5	10.0	12.0	
	kg (with brake)	8.6	10.5	4.8	5.8	8.6	10.5	12.0	15.0	
Brake specifications	Excitation voltage ^{*1}	24 VDC ±10%								
	Holding brake moment of inertia J	kg·m ² ×10 ⁻⁴		0.5		0.343		0.5		2.1
	Current consumption (at 20°C)	A		0.51		0.3		0.51		0.66
	Static friction torque	Nm (minimum)		9.0		3.92		9.0		12.0
Basic specifications	Insulation class	Type F								
	Ambient operating/storage temperature	0 to 40°C/-20 to 65°C								
	Ambient operating/storage humidity	20 to 90% (non-condensing)								
	Atmosphere	No corrosive gases								
	Insulation resistance	10 MΩ min. at 500 VDC between the power terminals and FG terminal								
	Vibration resistance	Vibration acceleration of 49 m/s ²								
	Impact resistance	Acceleration of 98 m/s ² max. 3 times each in X, Y and Z directions								
Enclosure	IP67 (except for through-shaft parts when connectors are inserted)									

*1 This is a non-excitabile brake (it is released when excitation voltage is applied).

Torque-speed characteristics



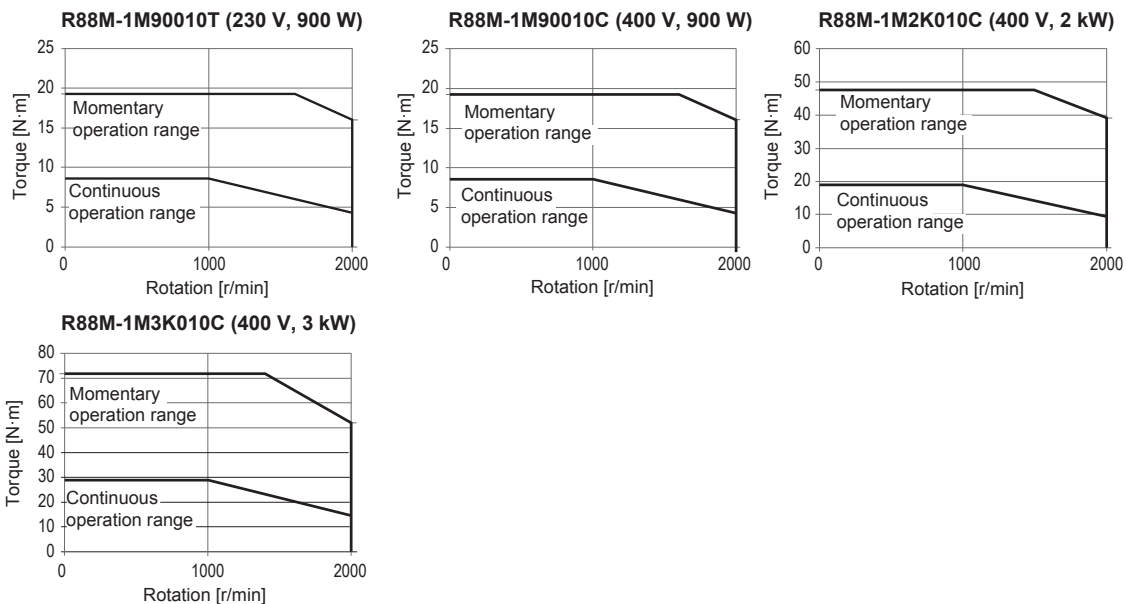
1000 r/min servo motors, 230 V/400 V

Ratings and specifications

Voltage		230 V		400 V	
Servo motor model: R88M-1□	23-bit absolute encoder	M90010T-□	M90010C-□	M2K010C-□	M3K010C-□
Rated output	W	900		2000	3000
Rated torque	Nm	8.59		19.1	28.7
Instantaneous peak torque	Nm	19.3		47.7	71.7
Rated current	A (rms)	6.7	3.6	7.1	10.6
Instantaneous max. current	A (rms)	16.9	9.0	19.5	27.7
Rated speed	min ⁻¹	1000			
Max. speed	min ⁻¹	2000			
Torque constant	N·m/A	1.28	2.41	3.00	2.97
Rotor moment of inertia	kg·m ² ×10 ⁻⁴ (without brake)	9.0042		40.0122	68.0122
	kg·m ² ×10 ⁻⁴ (with brake)	9.5042		45.1122	73.1122
Electrical time constant	ms	15.0	13.0	16.0	19.0
Allowable radial load	N	686		1176	1470
Allowable thrust load	N	196		490	
Weight	kg (without brake)	8.5		18.0	28.0
	kg (with brake)	10.5		22.0	33.0
Brake specifications	Excitation voltage* ¹	24 VDC ±10%			
	Holding brake moment of inertia J	kg·m ² ×10 ⁻⁴	0.5		5.1
	Current consumption (at 20°C)	A	0.51	1.2	1.0
	Static friction torque	Nm (minimum)	9.0	22.0	42.0
Basic specifications	Insulation class	Type F			
	Ambient operating/storage temperature	0 to 40°C/-20 to 65°C			
	Ambient operating/storage humidity	20 to 90% (non-condensing)			
	Atmosphere	No corrosive gases			
	Insulation resistance	10 MΩ min. at 500 VDC between the power terminals and FG terminal			
	Vibration resistance	Vibration acceleration of 49 m/s ²			
	Impact resistance	Acceleration of 98 m/s ² max. 3 times each in X, Y and Z directions			
	Enclosure	IP67 (except for through-shaft parts when connectors are inserted)			

*¹ This is a non-excitable brake (it is released when excitation voltage is applied).

Torque-speed characteristics

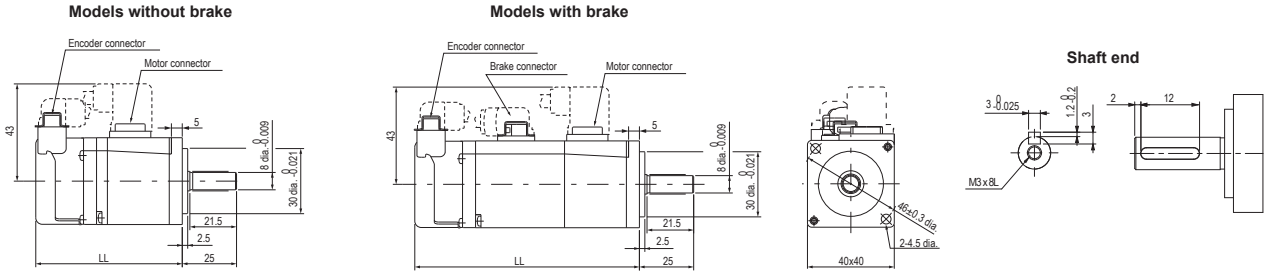


Dimensions

Servo motors

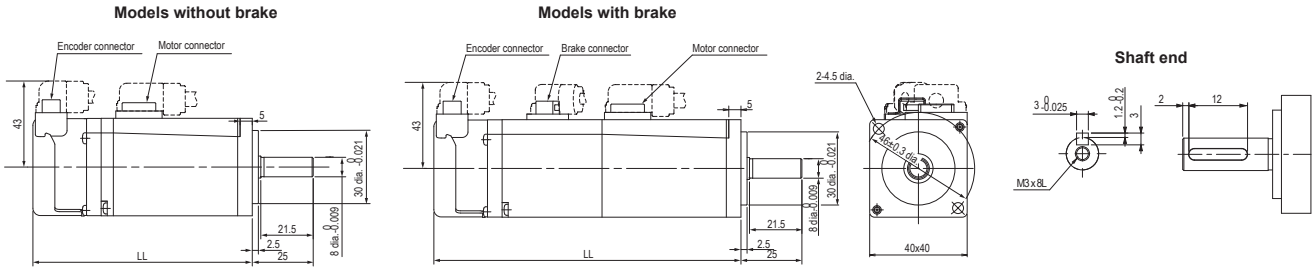
Type 3000 r/min motors (230 V, 50 W)

Dimensions (mm)	Without brake	With brake	Approx. mass (kg)	
Model: R88M-1□	LL	LL	Without brake	With brake
M05030T-□S2	67.5	103.5	0.35	0.59



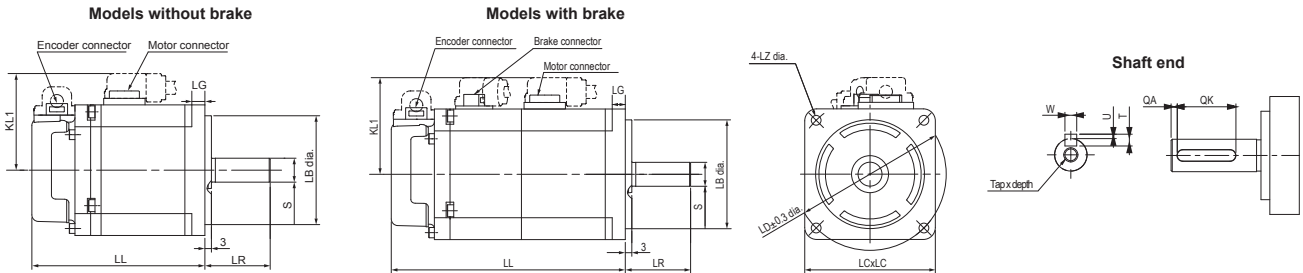
Type 3000 r/min motors (230 V, 100 W)

Dimensions (mm)	Without brake	With brake	Approx. mass (kg)	
Model: R88M-1□	LL	LL	Without brake	With brake
M10030(H/T)-□S2	90	126	0.52	0.77



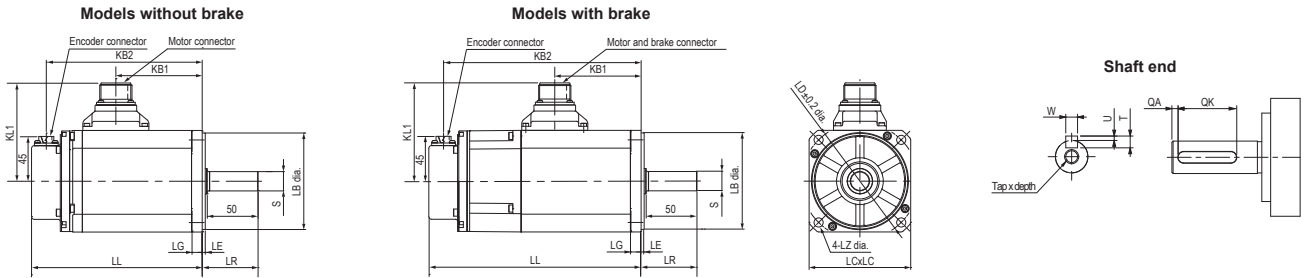
Type 3000 r/min motors (230 V, 200 W to 750 W)

Dimensions (mm)	Without brake		With brake		LR	Flange surface					Shaft end						Approx. mass (kg)		
	LL	KL1	LL	KL1		LB	LC	LD	LG	LZ	S	QA	QK	W	U	T	Tap x depth	Without brake	With brake
Model: R88M-1□	LL	KL1	LL	KL1		LB	LC	LD	LG	LZ	S	QA	QK	W	U	T	Tap x depth	Without brake	With brake
M20030(H/T)-□S2	79.5	52.6	107.5	52.6	30	50 dia. ⁰ _{-0.025}	60	70	6	4.5	11 dia. ⁰ _{-0.011}	2	20	4 ⁰ _{-0.03}	1.5 ⁰ _{-0.2}	4	M4 x 10L	1.0	1.3
M40030(H/T)-□S2	105.5		133.5								14 dia. ⁰ _{-0.011}			5 ⁰ _{-0.03}	2 ⁰ _{-0.2}	5	M5 x 12L	1.4	1.9
M75030(H/T)-□S2	117.3	63.2	153	63.2	35	70 dia. ⁰ _{-0.03}	80	90	8	6	19 dia. ⁰ _{-0.013}	3	24	6 ⁰ _{-0.03}	2.5 ⁰ _{-0.2}	6		2.9	3.9



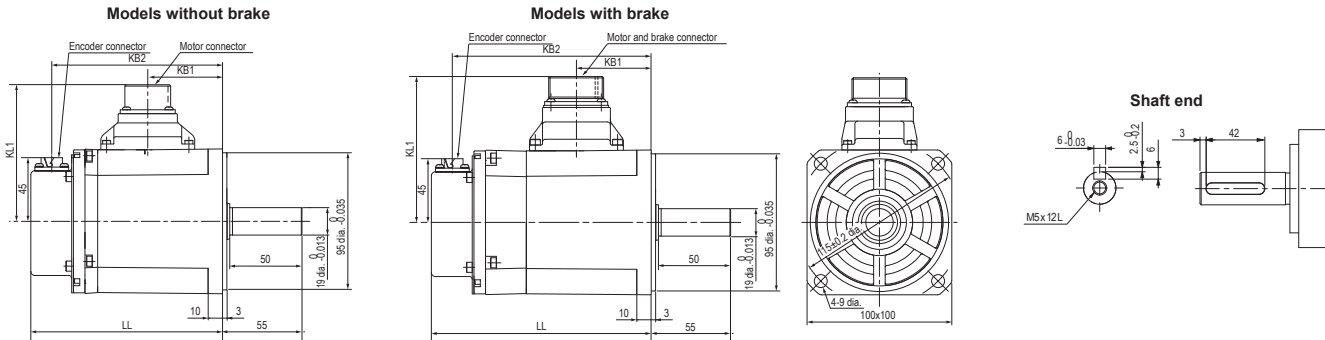
Type 3000 r/min motors (230 V, 1 kW to 1.5 kW / 400 V, 750 W to 3 kW)

Dimensions (mm)	Without brake				With brake				LR	Flange surface						Shaft end						Approx. mass (kg)		
	Model: R88M-1□	LL	KB1	KB2	KL1	LL	KB1	KB2		KL1	LB	LC	LD	LE	LG	LZ	S	QA	QK	W	U	T	Tap x depth	Without brake
L1K030(H/T)□S2	168	85	153	97	209	85	194	97	55	95 dia. $^{0}_{-0.035}$	100	115	3	10	9	19 dia. $^{0}_{-0.013}$	3	42	6 $^{0}_{-0.03}$	2.5 $^{0}_{-0.2}$	6	M5 x 12L	5.7	7.4
L1K530(H/T)□S2																						4.1	5.8	
L75030C□S2	139	56	124		180	56	165	104														5.7	7.4	
L1K030C□S2	168	85	153		209	85	194															6.4	8.1	
L1K530C□S2																						11.5	12.5	
L2K030C□S2	179	96	164		220	96	205																	
L3K030C□S2	184	112	169	116	230	112	215	119		110 dia. $^{0}_{-0.035}$	130	145	4	12	9	22 dia. $^{0}_{-0.013}$			8 $^{0}_{-0.036}$	3 $^{0}_{-0.4}$	7			



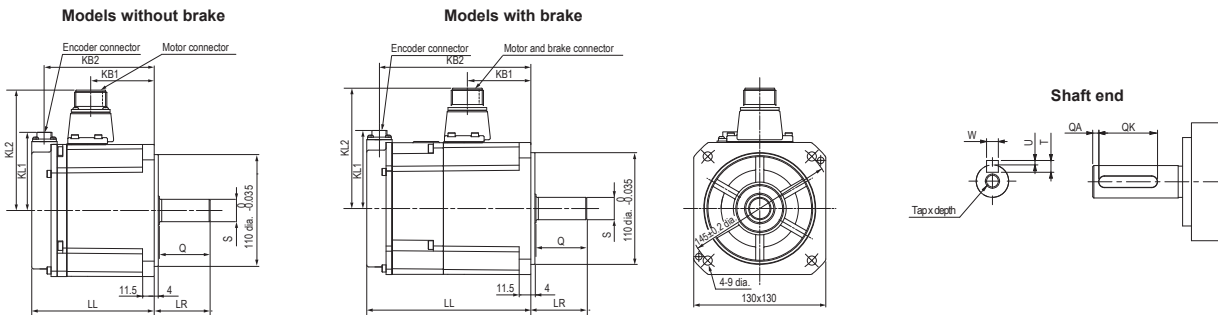
Type 2000 r/min motors (400 V, 400 W to 600 W)

Dimensions (mm)	Without brake				With brake				Approx. mass (kg)		
	Model: R88M-1□	LL	KB1	KB2	KL1	LL	KB1	KB2	KL1	Without brake	With brake
M40020C□S2	134.8	52	120.5	97	152.3	52	138	104		3.9	4.8
M60020C□S2	151.8	69	137.5		169.3	69	155			4.7	5.8



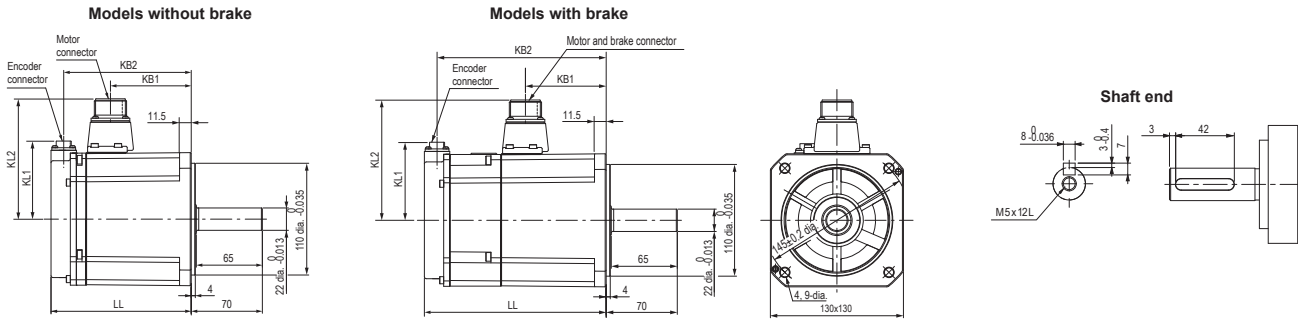
Type 2000 r/min motors (230 V, 1 kW to 1.5 kW / 400 V, 1 kW to 3 kW)

Dimensions (mm)	Without brake					With brake					LR	Shaft end						Approx. mass (kg)				
	Model: R88M-1□	LL	KB1	KB2	KL1	KL2	LL	KB1	KB2	KL1		KL2	S	Q	QA	QK	W	U	T	Tap x depth	Without brake	With brake
M1K020(H/T)□S2	120.5	63	109	76	118	162	63	149	76	118	55	22 dia. $^{0}_{-0.013}$	50	3	42	8 $^{0}_{-0.036}$	3 $^{0}_{-0.4}$	7	M5 x 12L	6.6	8.6	
M1K520(H/T)□S2	138	79	125			179	79	166												8.5	10.5	
M1K020C□S2	120.5	63	109			162	64	150		119										6.6	8.6	
M1K520C□S2	138	79	125			179	81	167												8.5	10.5	
M2K020C□S2	160	98	148			201	99	189												10.0	12.0	
M3K020C□S2	191	119	176	45	116	234	118	219	45	119	65	24 dia. $^{0}_{-0.013}$	60		52					M8 x 20L	12.0	15.0



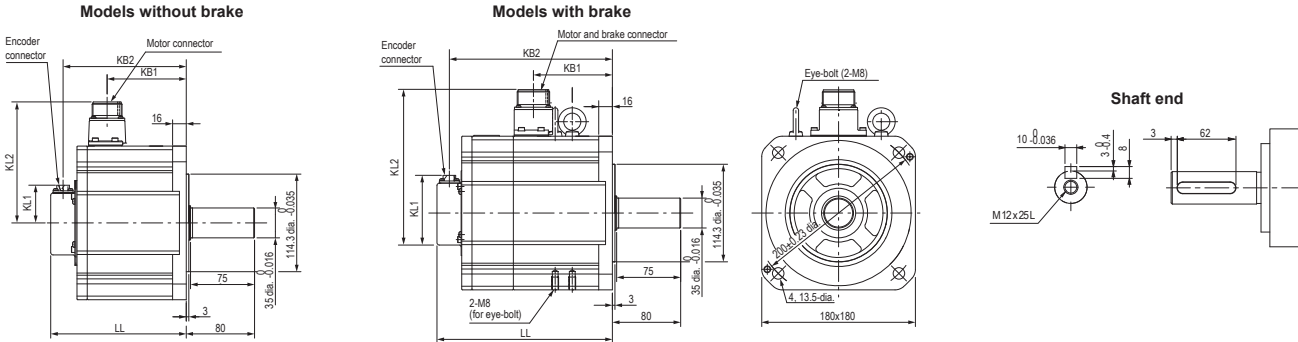
Type 1000 r/min motors (230 V, 900 W / 400 V, 900 W)

Dimensions (mm)	Without brake					With brake					Approx. mass (kg)	
	LL	KB1	KB2	KL1	KL2	LL	KB1	KB2	KL1	KL2	Without brake	With brake
Model: R88M-1□	138	79	125	76	118	179	79	166	76	118	8.5	10.5
M90010T-□S2							81	167		117		
M90010C-□S2												



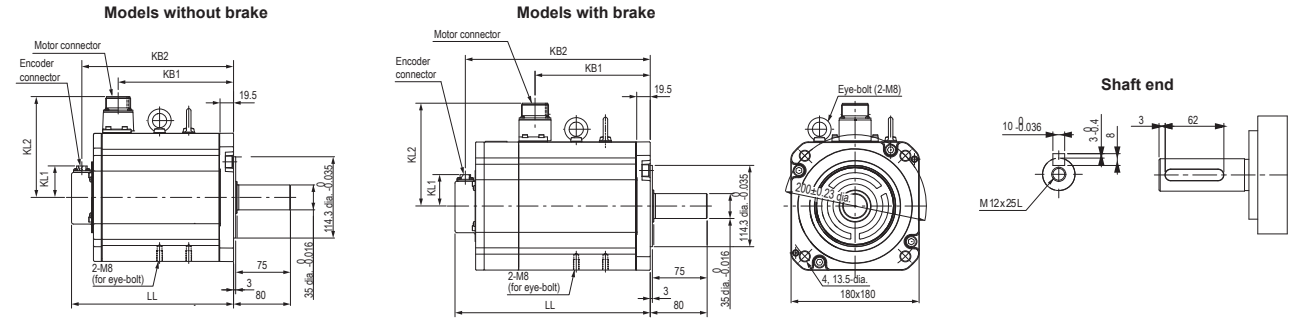
Type 1000 r/min motors (400 V, 2 kW)

Dimensions (mm)	Without brake					With brake					Approx. mass (kg)	
	LL	KB1	KB2	KL1	KL2	LL	KB1	KB2	KL1	KL2	Without brake	With brake
Model: R88M-1□	159	93	145	45	141	206	92	191	45	144	18.0	22.0
M2K010C-□S2												



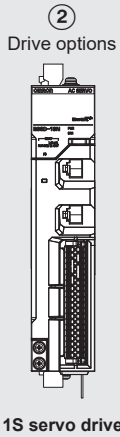
Type 1000 r/min motors (400 V, 3 kW)

Dimensions (mm)	Without brake					With brake					Approx. mass (kg)	
	LL	KB1	KB2	KL1	KL2	LL	KB1	KB2	KL1	KL2	Without brake	With brake
Model: R88M-1□	228	162	213	45	141	274	162	260	45	144	28.0	33.0
M3K010C-□S2												



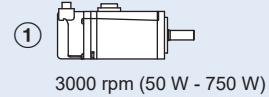
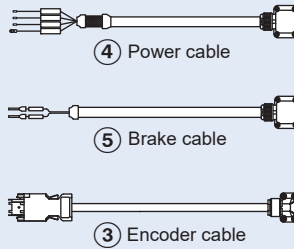
Ordering information

(Refer to servo drive chapter)



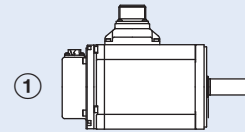
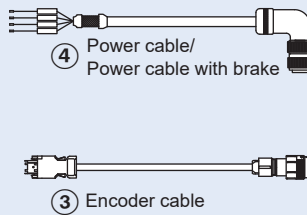
1S servo drive

1S servo motor (Flange size 80 mm or less)



3000 rpm (50 W - 750 W)

1S servo motor (Flange size 100 mm or more)



3000 rpm (1 kW - 3 kW)
2000 rpm (400 W - 3 kW)
1000 rpm (900 W - 3 kW)

Servo motors

① Select motor from R88M-1□ family using motor tables in next pages.

Servo drives

② Refer to the 1S servo drive chapter for detailed drive specifications and selection of drive accessories.

Servo motors

Servo motors 3000 r/min (100 W to 3 kW)

Symbol	Specifications						Model	Compatible 1S servo drive
	Voltage	Encoder and design		Rated torque	Capacity	Flange size		
①	230 V	Incremental encoder (23-bit)	Without brake	0.318 Nm	100 W	40 mm	R88M-1M10030H-S2	R88D-1SN01H-ECT
				0.637 Nm	200 W	60 mm	R88M-1M20030H-S2	R88D-1SN02H-ECT
				1.27 Nm	400 W		R88M-1M40030H-S2	R88D-1SN04H-ECT
				2.39 Nm	750 W	80 mm	R88M-1M75030H-S2	R88D-1SN08H-ECT
				3.18 Nm	1 kW	100 mm	R88M-1L1K030H-S2	R88D-1SN15H-ECT
				4.77 Nm	1.5 kW		R88M-1L1K530H-S2	R88D-1SN15H-ECT
			With brake	0.318 Nm	100 W	40 mm	R88M-1M10030H-BS2	R88D-1SN01H-ECT
				0.637 Nm	200 W	60 mm	R88M-1M20030H-BS2	R88D-1SN02H-ECT
				1.27 Nm	400 W		R88M-1M40030H-BS2	R88D-1SN04H-ECT
				2.39 Nm	750 W	80 mm	R88M-1M75030H-BS2	R88D-1SN08H-ECT
				3.18 Nm	1 kW	100 mm	R88M-1L1K030H-BS2	R88D-1SN15H-ECT
				4.77 Nm	1.5 kW		R88M-1L1K530H-BS2	R88D-1SN15H-ECT
		Absolute encoder (23-bit)	Without brake	0.159 Nm	50 W	40 mm	R88M-1M05030T-S2	R88D-1SN01H-ECT
				0.318 Nm	100 W		R88M-1M10030T-S2	R88D-1SN01H-ECT
				0.637 Nm	200 W	60 mm	R88M-1M20030T-S2	R88D-1SN02H-ECT
				1.27 Nm	400 W		R88M-1M40030T-S2	R88D-1SN04H-ECT
				2.39 Nm	750 W	80 mm	R88M-1M75030T-S2	R88D-1SN08H-ECT
				3.18 Nm	1 kW	100 mm	R88M-1L1K030T-S2	R88D-1SN15H-ECT
			With brake	0.159 Nm	50 W	40 mm	R88M-1M05030T-BS2	R88D-1SN01H-ECT
				0.318 Nm	100 W		R88M-1M10030T-BS2	R88D-1SN01H-ECT
				0.637 Nm	200 W	60 mm	R88M-1M20030T-BS2	R88D-1SN02H-ECT
				1.27 Nm	400 W		R88M-1M40030T-BS2	R88D-1SN04H-ECT
				2.39 Nm	750 W	80 mm	R88M-1M75030T-BS2	R88D-1SN08H-ECT
				3.18 Nm	1 kW	100 mm	R88M-1L1K030T-BS2	R88D-1SN15H-ECT
	4.77 Nm	1.5 kW		R88M-1L1K530T-BS2	R88D-1SN15H-ECT			

Symbol	Specifications					Model	Compatible 1S servo drive			
	Voltage	Encoder and design		Rated torque	Capacity			Flange size		
①	400 V	Absolute encoder (23-bit)	Without brake	2.39 Nm	750 W	100 mm	R88M-1L75030C-S2	R88D-1SN10F-ECT		
				3.18 Nm	1 kW		R88M-1L1K030C-S2	R88D-1SN10F-ECT		
				4.77 Nm	1.5 kW		R88M-1L1K530C-S2	R88D-1SN15F-ECT		
			Straight shaft with key and tap	With brake	6.37 Nm		2 kW	130 mm	R88M-1L2K030C-S2	R88D-1SN20F-ECT
					9.55 Nm		3 kW		R88M-1L3K030C-S2	R88D-1SN30F-ECT
					2.39 Nm		750 W		R88M-1L75030C-BS2	R88D-1SN10F-ECT
		3.18 Nm	1 kW	R88M-1L1K030C-BS2	R88D-1SN10F-ECT					
		4.77 Nm	1.5 kW	R88M-1L1K530C-BS2	R88D-1SN15F-ECT					
		6.37 Nm	2 kW	R88M-1L2K030C-BS2	R88D-1SN20F-ECT					
		9.55 Nm	3 kW	R88M-1L3K030C-BS2	R88D-1SN30F-ECT					

Servo motors 2000 r/min (400 W to 3 kW)

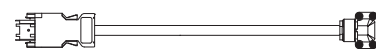
Symbol	Specifications					Model	Compatible 1S servo drive		
	Voltage	Encoder and design		Rated torque	Capacity			Flange size	
①	230 V	Incremental encoder (23-bit)	Without brake	4.77 Nm	1 kW	130 mm	R88M-1M1K020H-S2	R88D-1SN15H-ECT	
				7.16 Nm	1.5 kW		R88M-1M1K520H-S2	R88D-1SN15H-ECT	
				Straight shaft with key and tap	With brake		4.77 Nm	1 kW	R88M-1M1K020H-BS2
			7.16 Nm				1.5 kW	R88M-1M1K520H-BS2	R88D-1SN15H-ECT
			Absolute encoder (23-bit)				Without brake	4.77 Nm	1 kW
				7.16 Nm	1.5 kW			R88M-1M1K520T-S2	R88D-1SN15H-ECT
		Straight shaft with key and tap		With brake	4.77 Nm			1 kW	R88M-1M1K020T-BS2
			7.16 Nm		1.5 kW		R88M-1M1K520T-BS2	R88D-1SN15H-ECT	
			400 V		Without brake		100 mm	1.91 Nm	400 W
		2.86 Nm		600 W				R88M-1M60020C-S2	R88D-1SN06F-ECT
		130 mm		4.77 Nm				1 kW	R88M-1M1K020C-S2
				7.16 Nm			1.5 kW	R88M-1M1K520C-S2	R88D-1SN15F-ECT
	9.55 Nm			2 kW		R88M-1M2K020C-S2	R88D-1SN20F-ECT		
	14.3 Nm	3 kW		R88M-1M3K020C-S2		R88D-1SN30F-ECT			
	With brake	100 mm		1.91 Nm	400 W	R88M-1M40020C-BS2	R88D-1SN06F-ECT		
				2.86 Nm	600 W	R88M-1M60020C-BS2	R88D-1SN06F-ECT		
				130 mm	4.77 Nm	1 kW	R88M-1M1K020C-BS2	R88D-1SN10F-ECT	
		7.16 Nm			1.5 kW	R88M-1M1K520C-BS2	R88D-1SN15F-ECT		
		9.55 Nm			2 kW	R88M-1M2K020C-BS2	R88D-1SN20F-ECT		
		14.3 Nm		3 kW	R88M-1M3K020C-BS2	R88D-1SN30F-ECT			

Servo motors 1000 r/min (900 W to 3 kW)

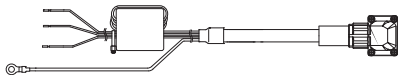
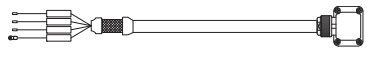

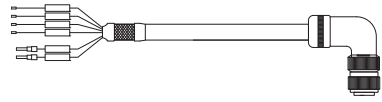

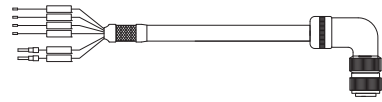
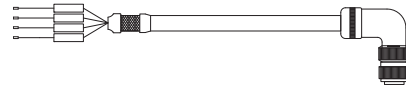
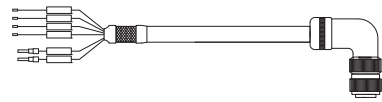
Symbol	Specifications					Model	Compatible 1S servo drive	
	Voltage	Encoder and design		Rated torque	Capacity			Flange size
①	230 V	Absolute encoder (23-bit)	Without brake	8.59 Nm	900 W	130 mm	R88M-1M90010T-S2	R88D-1SN15H-ECT
				With brake	8.59 Nm		900 W	R88M-1M90010T-BS2
			400 V	Straight shaft with key and tap	Without brake		8.59 Nm	900 W
	19.1 Nm	2 kW				R88M-1M2K010C-S2	R88D-1SN20F-ECT	
	28.7 Nm	3 kW			R88M-1M3K010C-S2	R88D-1SN30F-ECT		
	With brake	130 mm		8.59 Nm	900 W	R88M-1M90010C-BS2	R88D-1SN10F-ECT	
				180 mm	19.1 Nm	2 kW	R88M-1M2K010C-BS2	R88D-1SN20F-ECT
					28.7 Nm	3 kW	R88M-1M3K010C-BS2	R88D-1SN30F-ECT

Encoder cables

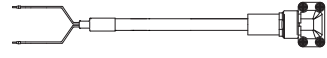
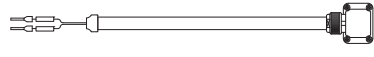
Symbol	Specifications	Model	Appearance
③	Encoder cable for servo motors R88M-1M05030T-□ R88M-1M(100/200/400/750)30(H/T)-□	1.5 m	R88A-CR1A001-5CF-E
		3 m	R88A-CR1A003CF-E
		5 m	R88A-CR1A005CF-E
		10 m	R88A-CR1A010CF-E
		15 m	R88A-CR1A015CF-E
		20 m	R88A-CR1A020CF-E
	Encoder cable for servo motors R88M-1L(1K0/1K5)30(H/T)-□ R88M-1L(750/1K0/1K5/2K0/3K0)30C-□ R88M-1M(1K0/1K5)20(H/T)-□ R88M-1M(400/600/1K0/1K5/2K0/3K0)20C-□ R88M-1M90010T-□ R88M-1M(900/2K0/3K0)10C-□	1.5 m	R88A-CR1B001-5NF-E
		3 m	R88A-CR1B003NF-E
		5 m	R88A-CR1B005NF-E
		10 m	R88A-CR1B010NF-E
		15 m	R88A-CR1B015NF-E
		20 m	R88A-CR1B020NF-E



Power cables

Symbol	Specifications		Model	Appearance	
④	For 230 V servo motors R88M-1M05030T-□S2 Note: For servo motors with brake R88M-1M05030T-BS2, the separate brake cable R88A-CA1A□□□BFR is needed.	Without brake	3 m	R88A-CA1A003SFR	
			5 m	R88A-CA1A005SFR	
			10 m	R88A-CA1A010SFR	
			15 m	R88A-CA1A015SFR	
			20 m	R88A-CA1A020SFR	
	For 230 V servo motors R88M-1M(100/200/400/750)30(H/T)-□S2 Note: For servo motors with brake R88M-1M(100/200/400/750)30(H/T)-BS2, the separate brake cable R88A-CA1A□□□BF-E is needed.	Without brake	1.5 m	R88A-CA1A001-5SF-E	
			3 m	R88A-CA1A003SF-E	
			5 m	R88A-CA1A005SF-E	
			10 m	R88A-CA1A010SF-E	
			15 m	R88A-CA1A015SF-E	
	For 230 V servo motors R88M-1L(1K0/1K5)30(H/T)-□S2 R88M-1M(1K0/1K5)20(H/T)-□S2 R88M-1M90010T-□S2	Without brake	1.5 m	R88A-CA1C001-5SF-E	
			3 m	R88A-CA1C003SF-E	
			5 m	R88A-CA1C005SF-E	
			10 m	R88A-CA1C010SF-E	
			15 m	R88A-CA1C015SF-E	
		With brake	1.5 m	R88A-CA1C001-5BF-E	
			3 m	R88A-CA1C003BF-E	
			5 m	R88A-CA1C005BF-E	
			10 m	R88A-CA1C010BF-E	
			15 m	R88A-CA1C015BF-E	
For 400 V servo motors R88M-1L(750/1K0/1K5/2K0)30C-□S2 R88M-1M(400/600/1K0/1K5/2K0)20C-□S2 R88M-1M90010C-□S2	Without brake	1.5 m	R88A-CA1C001-5SF-E		
		3 m	R88A-CA1C003SF-E		
		5 m	R88A-CA1C005SF-E		
		10 m	R88A-CA1C010SF-E		
		15 m	R88A-CA1C015SF-E		
	With brake	1.5 m	R88A-CA1E001-5BF-E		
		3 m	R88A-CA1E003BF-E		
		5 m	R88A-CA1E005BF-E		
		10 m	R88A-CA1E010BF-E		
		15 m	R88A-CA1E015BF-E		
For 400 V servo motors R88M-1L3K030C-□S2 R88M-1M3K020C-□S2 R88M-1M(2K0/3K0)10C-□S2	Without brake	1.5 m	R88A-CA1E001-5SF-E		
		3 m	R88A-CA1E003SF-E		
		5 m	R88A-CA1E005SF-E		
		10 m	R88A-CA1E010SF-E		
		15 m	R88A-CA1E015SF-E		
	With brake	1.5 m	R88A-CA1E001-5BF-E		
		3 m	R88A-CA1E003BF-E		
		5 m	R88A-CA1E005BF-E		
		10 m	R88A-CA1E010BF-E		
		15 m	R88A-CA1E015BF-E		

Brake cables (for 230 V, 50 W to 750 W servo motors)

Symbol	Specifications	Model	Appearance	
⑤	Brake cable only For 230 V servo motors with brake R88M-1M05030T-BS2	3 m	R88A-CA1A003BFR	
		5 m	R88A-CA1A005BFR	
		10 m	R88A-CA1A010BFR	
		15 m	R88A-CA1A015BFR	
		20 m	R88A-CA1A020BFR	
	Brake cable only For 230 V servo motors with brake R88M-1M(100/200/400/750)30(H/T)-BS2	1.5 m	R88A-CA1A001-5BF-E	
		3 m	R88A-CA1A003BF-E	
		5 m	R88A-CA1A005BF-E	
		10 m	R88A-CA1A010BF-E	
		15 m	R88A-CA1A015BF-E	

Connectors for encoder, power and brake cables

Specifications		Applicable servo motor	Model
Connectors for encoder cables	Drive side (CN2)	All models	R88A-CN101R
	Motor side	R88M-1M05030T-□ R88M-1M(100/200/400/750)30(H/T)-□	R88A-CNK02R
		R88M-1L(1K0/1K5)30(H/T)-□ R88M-1L(750/1K0/1K5/2K0/3K0)30C-□ R88M-1M(1K0/1K5)20(H/T)-□ R88M-1M(400/600/1K0/1K5/2K0/3K0)20C-□ R88M-1M90010T-□ R88M-1M(900/2K0/3K0)10C-□	R88A-CN104R
Connectors for power cables	Motor side	R88M-1M(100/200/400/750)30(H/T)-_S2	R88A-CN111A
		R88M-1L(1K0/1K5)30(H/T)-S2 R88M-1M(1K0/1K5)20(H/T)-S2 R88M-1M90010T-S2 R88M-1L(750/1K0/1K5/2K0)30C-S2 R88M-1M(400/600/1K0/1K5/2K0)20C-S2 R88M-1M90010C-S2	MS3108E20-4S
		R88M-1L(1K0/1K5)30(H/T)-BS2 R88M-1M(1K0/1K5)20(H/T)-BS2 R88M-1M90010T-BS2	MS3108E20-18S
		R88M-1L3K030C-S2 R88M-1M3K020C-S2 R88M-1M(2K0/3K0)10C-S2	MS3108E22-22S
		R88M-1L(750/1K0/1K5/2K0/3K0)30C-BS2 R88M-1M(400/600/1K0/1K5/2K0/3K0)20C-BS2 R88M-1M(900/2K0/3K0)10C-BS2	MS3108E24-11S
		R88M-1M(100/200/400/750)30(H/T)-BS2	R88A-CN111B
Connectors for brake cables	Motor side	R88M-1M(100/200/400/750)30(H/T)-BS2	R88A-CN111B

Cable clamp (spare parts)

Applicable 1S power cable	Model
230 V, 100 W to 750 W models	R88A-SC011S-E
230 V, 1.5 kW model	R88A-SC021S-E
400 V, 600 W to 3 kW models	

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

Cat. No. SysCat_1189E-EN-03 In the interest of product improvement, specifications are subject to change without notice.