


Medium / High Inertia Servo Motor

Model: ECMA Series	E213				E218		F218	G213		
	05	10	15	20	20	30	30	03	06	09
Rated output power (kW)	0.5	1.0	1.5	2.0	2.0	3.0	3.0	0.3	0.6	0.9
Rated torque (N-m) ^{*1}	2.39	4.77	7.16	9.55	9.55	14.32	19.10	2.86	5.73	8.59
Maximum torque (N-m)	7.16	14.32	21.48	28.65	28.65	42.97	57.29	8.59	17.19	21.48
Rated speed (r/min)	2000						1500	1000		
Maximum speed (r/min)	3000						2000			
Rated current (A)	2.9	5.6	8.3	11.01	11.22	16.1	19.4	2.5	4.8	7.5
Maximum current (A)	8.7	16.8	24.81	33.0	33.66	48.3	58.2	7.44	14.49	22.5
Power rating (kW/s) (without brake)	7.0	27.1	45.9	62.5	26.3	37.3	66.4	10.0	39.0	66.0
Rotor moment of inertia ($\times 10^4 \text{kg}\cdot\text{m}^2$)	8.17	8.41	11.18	14.59	34.68	54.95	54.95	8.17	8.41	11.18
Mechanical time constant (ms)	1.91	1.51	1.11	0.96	1.62	1.06	1.28	1.84	1.40	1.07
Torque constant-KT (N-m/A)	0.83	0.85	0.87	0.87	0.85	0.89	0.98	1.15	1.19	1.15
Voltage constant-KE (mV/(r/min))	30.9	31.9	31.8	31.8	31.4	32.0	35.0	42.5	43.8	41.6
Armature resistance (Ohm)	0.57	0.47	0.26	0.174	0.119	0.052	0.077	1.06	0.82	0.43
Armature inductance (mH)	7.39	5.99	4.01	2.76	2.84	1.38	1.27	14.29	11.12	6.97
Electrical time constant (ms)	12.96	12.88	15.31	15.86	23.87	26.39	16.51	13.55	13.55	16.06
Insulation class	Class A (UL), Class B (CE)									
Insulation resistance	>100M Ω , DC 500V									
Insulation strength	AC 1500V \cdot 60 sec									
Weight (kg) (without brake)	6.8	7.0	7.5	7.8	13.5	18.5	18.5	6.8	7.0	7.5
Weight (kg) (with brake)	8.2	8.4	8.9	9.2	17.5	22.5	22.5	8.2	8.4	8.9
Max. radial shaft load (N)	490	490	490	490	1176	1470	1470	490	490	490
Max. thrust shaft load (N)	98	98	98	98	490	490	490	98	98	98
Power rating (kW/s) (with brake)	6.4	24.9	43.1	59.7	24.1	35.9	63.9	9.2	35.9	62.1
Rotor moment of inertia ($\times 10^4 \text{kg}\cdot\text{m}^2$) (with brake)	8.94	9.14	11.90	15.88	37.86	57.06	57.06	8.94	9.14	11.9
Mechanical time constant (ms) (with brake)	2.07	1.64	1.19	1.05	1.77	1.10	1.33	2.0	1.51	1.13
Brake holding torque [Nt-m (min)]	10.0	10.0	10.0	10.0	25.0	25.0	25.0	10.0	10.0	10.0
Brake power consumption (at 20°C) [W]	19.0	19.0	19.0	19.0	20.4	20.4	20.4	19.0	19.0	19.0

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Brake release time [ms (Max)]	10	10	10	10	10	10	10	10	10	10
Brake pull-in time [ms (Max)]	70	70	70	70	70	70	70	70	70	70
Vibration grade (um)	15									
Operating temperature	0 ~ 40 °C									
Storage temperature	-10 ~ 80 °C									
Operating humidity	20% to 90% RH (non-condensing)									
Storage humidity	20% to 90% RH (non-condensing)									
Vibration capacity	2.5G									
IP rating	IP65 (when waterproof connectors are used, or when an oil seal is used to be fitted to the rotating shaft (an oil seal model is used))									
Approvals										

Footnote:

- *1 Rate torque values are continuous permissible values at 0~40°C ambient temperature when attaching with the sizes of heatsinks listed below:
 ECMA-__04 / 06 / 08 : 250mm x 250mm x 6mm
 ECMA-__10 : 300mm x 300mm x 12mm
 ECMA-__13 : 400mm x 400mm x 20mm
 ECMA-__18 : 550mm x 550mm x 30mm
 Material type : Aluminum – F40, F60, F80, F100, F130, F180
- *2 For the specifications of the motors with rotary magnetic encoders, please refer to the specifications of the corresponding standard models.

 **NOTE**

- 1) Please refer to Section 1.2 for details about the model explanation.