

ECM-B3M Series Servo Motor Specifications

Electrical Specifications - 200 V

	ECM-B3M - C □ 0602	ECM-B3M - C □ 0604
Rated Power (kW)	0.2	0.4
Rated Torque (N-m) ^{*2}	0.64	1.27
Maximum Torque (N-m)	2.24	4.45
Rated Speed (rpm)	3,000	
Maximum Speed (rpm)	6,000	
Rated Current (Arms)	1.42	2.40
Max. Instantaneous Current (Arms)	6.62	9.47
Rated Power Rate (kW/s)	29.05	63.50
Rated Power Rate (kW/s) with brake	27.13	61.09
Rotor Inertia (×10 ⁻⁴ kg.m ²)	0.141	0.254
Rotor Inertia (×10 ⁻⁴ kg.m ²) with brake	0.151	0.264
Mechanical Time Constant (ms)	0.91	0.52
Mechanical Time Constant (ms) with brake	0.97	0.54
Torque Constant -KT (N-m/A)	0.45	0.53
Voltage Constant -KE (mV/(rpm))	16.96	19.76
Armature Resistance (Ohm)	4.71	2.04
Armature Inductance (mH)	12.18	6.50
Electrical Time Constant (ms)	2.59	3.19
Weight – without brake (kg)	0.9	1.2
Weight – with brake (kg)	1.3	1.6
Max. Radial Loading (N) ^{*5}	245	245
Max. Axial Loading (N) ^{*5}	74	74
Brake Working Voltage	24 V _{DC} ± 10%	
Brake Power Consumption (at 20°C)[W]	7.6	7.6
Brake Holding Torque [Nt-m (min)] ^{*3}	1.3	1.3
Brake Release Time [ms (Max)]	20	20
Brake Pull-In Time [ms (Max)]	50	50
Derating (%) (with oil seal)	10	5
Torque Feature (T-N Curve)		
Insulation Class	Class A (UL), Class B (CE)	
Insulation Resistance	> 100 M Ω, DC 500V	
Insulation Strength	1.8 kVac, 1 sec	
Vibration Level (μm)	V15	
Operating Temperature	-20°C ~ 60°C ^{*4}	
Storage Temperature	-20°C ~ 80°C	
Storage & Operation Humidity	20 ~ 90%RH (non-condensing)	
Vibration Capacity	2.5 G	
IP Rating	IP67 (when using waterproof connections and when an oil seal is fitted to the rotating shaft (for an oil seal model))	
Certifications		

Notes:

- In the servo motor model name, □ represents the motor inertia and □ represents the encoder type.
- The rated torque is the continuous permissible torque between 0 to 40°C operating temperature which is suitable for the servo motor mounted with the following heat sink dimensions.
F100: 300 mm x 300 mm x 12 mm
F130: 400 mm x 400 mm x 20 mm
Material: aluminum
- The built-in servo motor brake is only for keeping the object in a stopped state.
Do not use it for deceleration or as a dynamic brake
- If the operating temperature is over 40°C, refer to the power derating curves of B3 motors on page 37.

- Please follow the max. tolerant loading of the motor shaft end listed below during operation

