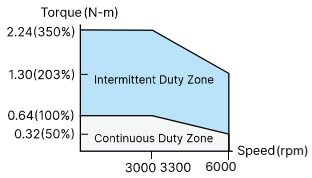
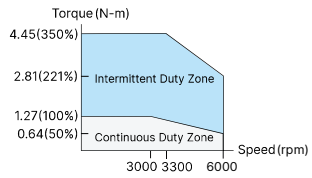
ECM-B3M Series Servo Motor Specifications

Electrical Specifications - 200 V

	ECM-B3M-C 2 0602	ECM-B3M-C 2 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 ($\times 10^{-4}$kg.m^2)	0.141	0.254
Rotor Inertia ($\times 10^{-4}$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:

1. In the servo motor model name, 1 represents the motor inertia and 2 represents the encoder type.
2. The rated torque is the continuous permissible torque between 0 to 40ºC 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
3. 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
4. If the operating temperature is over 40ºC, refer to the power derating curves of B3 motors on page 37.
5. Please follow the max. tolerant loading of the motor shaft end listed below during operation