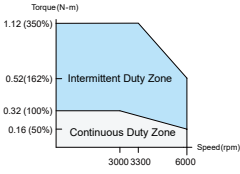
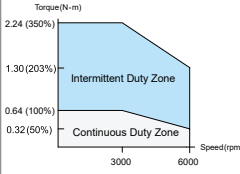
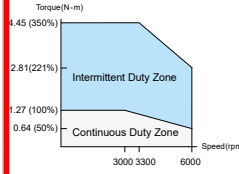
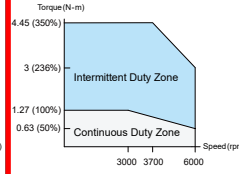



# ECM-B3 Series Servo Motor Specifications

## Electrical Specifications

### Low Inertia Motor ECM-B3L Series / Medium Inertia Motor ECM-B3M Series

	ECM-B3L-C [2] 0401 <sup>*1</sup>	ECM-B3M-C [2] 0602 <sup>*1</sup>	ECM-B3M-C [2] 0604 <sup>*1</sup>	ECM-B3M-C [2] 0804 <sup>*1</sup>
Rated Power (kW)	0.1	0.2	0.4	0.4
Rated Torque (N-m) <sup>2</sup>	0.32	0.64	1.27	1.27
Maximum Torque (N-m)	1.12	2.24	4.45	4.45
Rated Speed (rpm)			3000	
Maximum Speed (rpm)			6000	
Rated Current (Arms)	0.857	1.42	2.40	2.53
Max. Instantaneous Current (Arms)	3.44	6.62	9.47	9.42
Rated Power Rate (kW/s) <sup>3</sup>	34.25 (32.51)	29.05 (27.13)	63.50 (61.09)	24.89 (23.21)
Rotor Inertia ( $\times 10^{-4}$ kg.m <sup>2</sup> ) <sup>3</sup>	0.0299 (0.0315)	0.141 (0.151)	0.254 (0.264)	0.648 (0.695)
Mechanical Time Constant (ms) <sup>3</sup>	0.50 (0.53)	0.91 (0.97)	0.52 (0.54)	0.8 (0.86)
Torque Constant -KT (N-m/A)	0.374	0.45	0.53	0.5
Voltage Constant -KE (mV/(rpm))	13.8	16.96	19.76	18.97
Armature Resistance (Ohm)	8.22	4.71	2.04	1.125
Armature Inductance (mH)	19.1	12.18	6.50	5.14
Electrical Time Constant (ms)	2.32	2.59	3.19	4.57
Brake Holding Torque [Nt-m (min)] <sup>14</sup>	0.3	1.3	1.3	2.5
Brake Power Consumption (at 20°C)[W]	6.1	7.6	7.6	8
Brake Release Time [ms (Max.)]	20	20	20	20
Brake Pull-In Time [ms (Max.)]	35	50	50	60
Max. Radial Loading (N) <sup>16</sup>	78	245	245	392
Max. Axial Loading (N) <sup>16</sup>	54	74	74	147
Weight (kg) <sup>13</sup>	0.5 (0.7)	0.9 (1.3)	1.2 (1.6)	1.7 (2.51)
Derating (%) (with oil seal)	10	10	5	5
Torque Feature (T-N Curve)				
Insulation Class	Class A (UL), Class B (CE)			
Insulation Resistance	> 100 MΩ, DC 500V			
Insulation Strength	1.8 kVac, 1 sec			
Vibration Level (μm)	V15			
Operating Temperature	-20°C ~ 60°C <sup>5</sup>			
Storage Temperature	-20°C ~ 80°C <sup>5</sup>			
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, [1] represents the motor inertia and [2] 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.  
F40, F60, F80: 250 mm x 250 mm x 6 mm  
Material: aluminum
- ( ) = motor with brake
- 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 27.

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

