

ECM-B3M Series Servo Motor Specifications

Electrical Specifications - 200 V

	ECM-B3M-C ② 0807	ECM-B3M-C ② 0810
Rated Power (kW)	0.75	1
Rated Torque (N-m) ^{*2}	2.4	3.18
Maximum Torque (N-m)	8.4	11.13
Rated Speed (rpm)	3,000	
Maximum Speed (rpm)	6,000	
Rated Current (Arms)	4.27	5
Max. Instantaneous Current (Arms)	15.8	18.2
Rated Power Rate (kW/s)	53.83	73.8
Rated Power Rate (kW/s) with brake	50.97	72.2
Rotor Inertia (×10 ⁻⁴ kg.m ²)	1.07	1.37
Rotor Inertia (×10 ⁻⁴ kg.m ²) with brake	1.13	1.4
Mechanical Time Constant (ms)	0.54	0.48
Mechanical Time Constant (ms) with brake	0.57	0.49
Torque Constant -KT (N-m/A)	0.56	0.64
Voltage Constant -KE (mV/(rpm))	20.17	23.15
Armature Resistance (Ohm)	0.55	0.495
Armature Inductance (mH)	2.81	2.63
Electrical Time Constant (ms)	5.11	5.31
Weight – without brake (kg)	2.34	2.82
Weight – with brake (kg)	3.15	3.6
Max. Radial Loading (N) ^{*5}	392	392
Max. Axial Loading (N) ^{*5}	147	147
Brake Working Voltage	24 V _{DC} ± 10%	24 V _{DC} ± 10%
Brake Power Consumption (at 20°C)[W]	8	10
Brake Holding Torque [Nt-m (min)] ^{*3}	2.5	3.8
Brake Release Time [ms (Max)]	20	40
Brake Pull-In Time [ms (Max)]	60	80
Derating (%) (with oil seal)	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 kV _{AC} , 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	2.5G	
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.
 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. tolerating loading of the motor shaft end listed below during operation

