

Technical Announcement

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Purpose: Launch servo products in India – ASD-B2L & ECM-E2M

Content:

ASD-B2 Servo Drive

1. Model Explanation

ASD-B2 Series Servo Drive

ASD – B2 □ – 04 21 – □
(1) (2) (3) (4) (5)

(1) Product name
AC Servo Drive

(2) Product series
B2 / B2L

(3) Rated output power

Code	Spec.	Code	Spec.	Code	Spec.
01	100 W	07	750 W	20	2.0 kW
02	200 W	10	1.0 kW	30	3.0 kW
04	400 W	15	1.5 kW	-	-

(4) Input voltage and phase
21: 220 V, single/three-phase
23: 220 V, three-phase

(5) Model type

Code	Full-closed loop control	EtherCAT	CANopen	DMCNET	E-CAM	Extension port for DI
B	x	x	x	x	x	x

2. Specification of ASD-B2

ASD-B2			100W	200W	400W	750W	1kW	1.5kW	2kW	3kW
			01	02	04	07	10	15	20	30
Power	Phase/Voltage		Three-phase: 170 ~ 255V _{AC} , 50/60Hz ±5% Single-phase: 200 ~ 255V _{AC} , 50/60Hz ±5%						Three-phase 170 ~ 255V _{AC} 50/60Hz ±5%	
	Input current (3PH) Unit: Arms		0.7	1.11	1.86	3.66	4.68	5.9	8.76	9.83
	Input current (1PH) Unit: Arms		0.9	1.92	3.22	6.78	8.88	10.3	-	-
	Continuous output current Unit: Arms		0.9	1.55	2.6	5.1	7.3	8.3	13.4	19.4
Cooling method			Natural cooling				Fan cooling			
Encoder resolution			17-bit (160000 p/rev)							
Main circuit control			SVPWM Control							
Control mode			Manual/Auto							
Regenerative resistor			N/A		Built-in					
Position control mode	Max. input pulse frequency		Line driver: 500K (low-speed) / 4Mpps (high-speed) Open collector: 200Kpps							
	Pulse type		Pulse + Direction; A phase + B phase; CCW pulse + CW pulse							
	Command source		External pulse							
	Smoothing strategy		Low-pass filter							
	E-Gear ratio		E-Gear ratio: N/M multiple (1/50 < N/M < 25600) N: 1 ~ (2 ²⁶ -1) / M: 1 ~ (2 ³¹ -1)							
	Torque limit		Parameter settings							
	Feed forward compensation		Parameter settings							
Speed control mode	Analog command input	Voltage range	0 ~ ±10 V _{DC}							
		Input resistance	10KΩ							
		Time constant	2.2 us							
	Speed control range ^{*1}		1:5000							
	Command source		External analog command / Register							
	Smoothing strategy		Low-pass and S-curve filter							
	Torque limit		Parameter settings / Analog input							
	Bandwidth		Maximum 550 Hz							
	Speed accuracy ^{*2}		±0.01% at 0 to 100% load fluctuation							
			±0.01% at ±10% power fluctuation							
±0.01% at 0 °C to 50 °C ambient temperature fluctuation										

ASD-B2			100W	200W	400W	750W	1kW	1.5kW	2kW	3kW	
			01	02	04	07	10	15	20	30	
Torque control mode	Analog command input	Voltage range	0 ~ ±10 V _{DC}								
		Input resistance	10KΩ								
		Time constant	2.2 us								
	Command source		External analog command / Register								
	Smoothing strategy		Low-pass filter								
	Speed limit		Parameter settings / Analog input								
Analog monitor output			Monitor signal can be set by parameters (voltage output range: ± 8V);								
Digital input / output	Input	Servo on, Fault reset, Gain switch, Pulse clear, Zero clamp, Command input reverse control, Torque limit, Speed limit, Speed command selection, Speed / position mode switching, Speed / torque mode switching, Torque / position mode switching, Emergency stop, Positive/negative limit, Forward/reverse operation torque limit, Forward / reverse JOG input, E-gear N selection, Pulse input prohibition									
		Output	A, B, Z Line Driver output								
			Servo on, Servo ready, Zero speed, Target speed reached, Target position reached, Torque limiting, Servo alarm, Brake control, Early warning for overload, Servo warning								
Protective Function			Over current, Overvoltage, Under voltage, Overheat, Overload, Excessive speed deviation, Excessive position deviation, Encoder error, Regenerative error, Communication error, Register error, Short-circuit protection of terminal U, V, W and CN1, CN2, CN3								
Communication Interface			RS-232 / RS-485								
Environment	Installation Site		Indoors (avoid the direct sunlight), no corrosive fog (avoid fume, flammable gas and dust)								
	Altitude		Altitude 1000 m or lower above sea level								
	Atmospheric pressure		86 kPa ~ 106 kPa								
	Operating Temperature		0 °C ~ 55 °C (If operating temperature is above 45°C, forced cooling will be required)								
	Storage Temperature		-20 °C ~ 65 °C								
	Humidity		Less than 0 ~ 90% RH (non-condensing)								
	Vibration		9.80665m/s ² (1 G) less than 20 Hz, 5.88m/ s ² (0.6 G) 20 to 50 Hz								
	IP Rating		IP20								
	Power System		TN system*3								

	Approvals	IEC/EN 61800-5-1, UL508C  
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Note:

- *1 When it is in rated load, the speed ratio is: the minimum speed (smooth operation) /rated speed.
- *2 When the command is the rated speed, the velocity correction ratio is: (rotational speed with no load – rotational speed with full load) / rated speed.
- *3 TN system: The neutral point of the power system connects to the ground directly. The exposed metal components connect to the ground via the protective earth conductor.

3. Control mode of ASD-B2

Various operation modes are provided. Please refer to the following table:

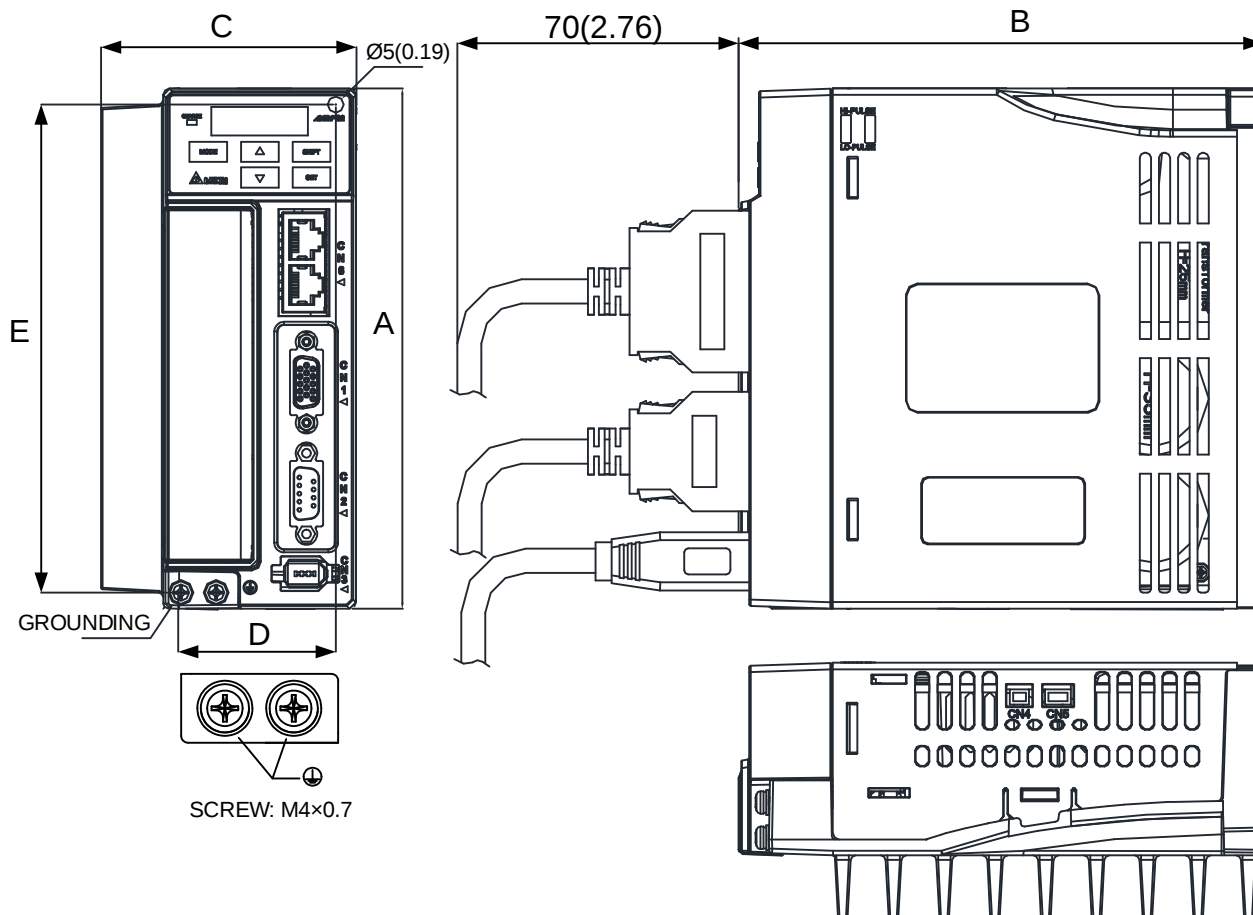
	Mode	Code	Description
Single Mode	Position Mode (Terminal Input)	P	Servo drive receives the position command and commands the servo motor to the target position. The position command is sent from CN1 and its signal type is pulse.
	Speed Mode	S	Servo drive receives the speed command and commands the servo motor to the target speed. Speed command is from the internal register (there are 3 in total) or external analog voltage (-10V ~ +10V). The command can be selected by DI.
	Speed Mode (No analog input)	Sz	Servo drive receives the speed command and commands the servo motor to the target speed. Speed command is from internal register only (there are 3 in total) and the command can be selected by DI. The external analog voltage command is not available in Sz mode.
	Torque Mode	T	Servo drive receives the torque command and commands the servo motor to the target torque. Torque command is from the internal register (there are 3 in total) or external analog voltage (-10V ~ +10V). The command can be selected by DI.

	Torque Mode (No analog input)	Tz	Servo drive receives the torque command and commands the servo motor to the target torque. Torque command is from internal register only (there are 3 in total) and the command can be selected by DI. The external analog voltage command is not available in Tz mode.
Dual Mode		S-P	Either S or P control mode can be selected via the Digital Input (DI) (Please refer to Chapter 7, table 7-1, Function Description of Digital Input (0x18)).
		T-P	Either T or P control mode can be selected via the Digital Input (DI) (Please refer to Chapter 7, table 7-1, Function Description of Digital Input (0x20)).
		S-T	Either S or T control mode can be selected via the Digital Input (DI) (Please refer to Chapter 7, table 7-1, Function Description of Digital Input (0x19)).

Note:

Users can use P1-01 to select the control mode. When the setting of new control mode is complete, please re-power on the servo drive to take the new mode into effect.

4. Dimensions of ASD-B2



Power rate	A	B	C	D	E	Weight	Mounting screw torque
100 W ~ 400 W	162 (6.37)	155.9 (6.13)	60.2 (2.37)	49 (1.92)	152 (5.98)	1074 g	6~8 kgf-cm
750 W	162 (6.38)	163.4 (6.43)	79.5 (3.12)	49 (1.92)	152 (5.98)	1543 g	6~8 kgf-cm
1 kW ~ 1.5 kW	162 (6.38)	189.4 (7.45)	85.1 (3.35)	74 (2.91)	152 (5.98)	1722 g	6~8 kgf-cm
2 kW ~ 3 kW	225 (8.85)	198.2 (7.8)	113.5 (4.47)	102 (4.01)	213 (8.38)	2667 g	14~16 kgf-cm

Note:

1. Dimensions are in millimeters (inches).
2. Dimensions and weights of the servo drive may be updated without prior notice.

ECM-E2M Servo Motor

1. Model Explanation

ECM-E2M Series Servo Motor

$$\begin{array}{ccccccc} \text{ECM} & - & \text{E} & \text{2} & \text{M} & - & \text{C} & \text{1} & \text{11} & \text{12} & \text{R} & \text{S} & \text{0} \\ (1) & & (2) & (3) & (4) & & (5) & (6) & (7) & (8) & (9) & (10) & (11) \end{array}$$

(1) Product name

ECM: Electronic Communication Motor

(2) Servo type

E: Economic servo motor

(3) Series

2 : B2

(4) Inertia

M: Medium inertia

(5) Rated voltage and speed

C: 220 V / 3,000 rpm

D: 220 V / 2,500 rpm

E: 220 V / 2,000 rpm

(6) Encoder type

1: 20-bit Incremental type encoder

A: 33-bit absolute type encoder

G: 16-bit Incremental magnetic type encoder, 50 ppr

(7) Motor frame size

Code	Spec.	Code	Spec.
06	60mm	13	130mm
08	80mm	15	150mm
11	110mm		

(8) Rated power output

Code	Spec.	Code	Spec.	Code	Spec.
02	200 W	12	1.2kW	18	1.8kW
04	400 W	13	1.3kW	24	2.4kW
07	700 W	15	1.5kW	26	2.6kW
10	1.0kW	16	1.6kW	38	3.8kW

(9) Type of shaft and oil seal

	w/o brake with oil seal	with brake with oil seal
Keyway (with fixed screw holes)	R	S

(10) Shaft diameter

S: Standard

7: Specific (14mm)

(11) Special code

0: Standard products

2. Specification of ECM-E2M

Medium inertia servo motor

ECM-E2M	CΔ06	CΔ06	CΔ08	CΔ08
	02□S0	04□S0	04□70	07□S0
Rated power (kW)	0.2	0.4	0.4	0.75
Rated torque (N-m) *1	0.64	1.27	1.27	2.4
Max. torque (N-m)	2.24	4.45	4.45	8.4
Rated speed (r/min)	3000			
Max. speed (r/min)	6000			
Rated current (Arms)	1.55	2.6	2.65	4.75
Max. instantaneous current (Arms)	5.7	9.8	9.4	17.1
Max. power per second (kW/s)	30.57	70.46	23.04	44.31
Rotor inertia (× 10 ⁻⁴ kg.m ²)	0.134	0.23	0.7	1.3
Mechanical constant (ms)	0.78	0.52	0.84	0.71
Torque constant-KT (N-m/A)	0.41	0.49	0.48	0.51
Voltage constant-KE (mV/(rpm))	16.3	17.75	18.85	19.05
Armature resistance (Ohm)	3.74	1.86	1.06	0.52
Armature inductance (mH)	2.38	2.38	2.38	2.38
Electric constant (ms)	3.22	3.6	5.49	5.88
Insulation class	Class B(CE)			
Insulation resistance	> 100MΩ, DC 500V			

ECM-E2M	CΔ06	CΔ06	CΔ08	CΔ08
	02□S0	04□S0	04□70	07□S0
Insulation strength	1.8k V _{AC} , 1 sec			
Weight (w/o brake) (kg)	1	1.3	1.8	2.4
Weight (with brake) (kg)	1.5	1.8	2.6	3.2
Max. radial loading (N)	196	196	245	245
Max. axial loading (N)	68	68	98	98
Power rating (kW/s) (with brake)	28.44	64.82	21.51	21.51
Rotor inertia (× 10 ⁻⁴ kg.m ²) (with brake)	0.144	0.25	0.75	0.75
Mechanical constant (ms) (with brake)	0.84	0.56	0.9	0.9
Brake holding torque [Nt-m (min)] *2	1.9	1.9	3.6	3.6
Brake power consumption (W) (at 20°C)	8.2	8.2	11.5	11.5
Brake release time [ms (Max)]	30	30	40	40
Brake pull-in time [ms (Max)]	50	50	60	60
Vibration grade (μm)	V15			
Operating temperature (°C)	0 ~ 40			
Storage temperature (°C)	-10 ~ 80			
Operating humidity	20 ~ 90%RH (non-condensing)			
Storage humidity	20 ~ 90%RH (non-condensing)			
Vibration capacity	2.5G			
IP rating	IP65			
Approval				

Note:

- The rated torque is the continuous permissible torque between 0 ~ 40°C operating temperature which is suitable for the following heat sink dimension.
ECM-E2 M-__06/08: 250mm x 250mm x 6mm
Material: Aluminum– F60, F80
- The built-in brake of the servo motor is for clamping purpose. Do not use it to decelerate or stop the operation

ECM-E2M	CΔ11		CΔ13	DΔ13				DΔ15
	12□S0	18□S0	24□S0	10□S0	13□S0	15□S0	26□S0	38□S0
Rated power (kW)	1.2	1.8	2.4	1	1.3	1.5	2.6	3.8
Rated torque (N-m) * ¹	4	6	7.7	4	5	6	10	15
Max. torque (N-m)	12	18	23.1	12	15	18	30	45
Rated speed (r/min)	3000			2500				
Max. speed (r/min)	3500			3000				
Rated current (Arms)	5.5	7.3	10.8	4.7	5.8	6.6	11.5	16.5
Max. instantaneous current (Arms)	16.1	21	31.3	13.6	17.1	19	33.3	49.2
Max. power per second (kW/s)	20.78	28.35	29.06	12.9	17.12	22.09	37.31	33.58
Rotor inertia (× 10 ⁻⁴ kg.m ²)	7.7	12.7	20.4	12.4	14.6	16.3	26.8	67
Mechanical constant (ms)	2.07	1.44	2.38	3.39	2.07	2.46	1.91	2.56
Torque constant-KT (N-m/A)	0.75	0.82	0.71	0.85	0.86	0.91	0.87	0.91
Voltage constant-KE (mV/(rpm))	27.8	30.95	27	32.3	32.1	34.2	32.6	33.2
Armature resistance (Ohm)	0.54	0.28	0.22	0.75	0.51	0.47	0.2	0.11
Armature inductance (mH)	1.62	1.092	1.03	2.77	2.05	2.05	1	0.64
Electric constant (ms)	3	3.9	4.7	3.69	4.02	4.36	5	5.78
Insulation class	Class B(CE)							
Insulation resistance	> 100MΩ, DC 500V							
Insulation strength	1.8k V _{AC} , 1 sec							
Weight (w/o brake) (kg)	5.2	7.5	8.57	6.22	6.81	7.4	10.49	15.58
Weight (with brake) (kg)	6.73	9.21	10.53	7.66	8.29	9.25	12.53	19.28
Max. radial loading (N)	600	600	900	900	900	900	900	900
Max. axial loading (N)	180	180	300	300	300	300	300	300
Power rating (kW/s) (with brake)	20.36	27.91	28.64	12.7	16.89	21.82	36.9	32.75
Rotor inertia (× 10 ⁻⁴ kg.m ²) (with brake)	7.86	12.9	20.7	12.6	14.8	16.5	27.1	68.7
Mechanical constant (ms) (with brake)	2.12	1.47	2.41	3.44	2.86	2.49	1.93	2.62

ECM-E2M	CΔ11		CΔ13	DΔ13				DΔ15
	12□S0	18□S0	24□S0	10□S0	13□S0	15□S0	26□S0	38□S0
Brake holding torque [Nt-m (min)] *2	4	6	7.7	4	5	6	10	15
Brake power consumption (W) (at 20°C)	20	20	25	20	20	25	25	32
Brake release time [ms (Max)]	90	90	120	90	90	120	120	160
Brake pull-in time [ms (Max)]	80	80	85	80	80	85	85	120
Vibration grade (μm)	15							
Operating temperature (°C)	0 ~ 40							
Storage temperature (°C)	-10 ~ 80							
Operating humidity	20 ~ 90%RH (non-condensing)							
Storage humidity	20 ~ 90%RH (non-condensing)							
Vibration capacity	2.5G							
IP rating	IP65							
Approval								

Note:

- The rated torque is the continuous permissible torque between 0 ~ 40°C operating temperature which is suitable for the following heat sink dimension.
 ECM-E2M-__11 : 330mm x 330mm x 15mm
 ECM-E2M-__13 : 400mm x 400mm x 20mm
 ECM-E2M-__15 : 460mm x 460mm x 24mm
 Material: Aluminum– F110, F130, F150
- The built-in brake of the servo motor is for clamping purpose. Do not use it to decelerate or stop the operation

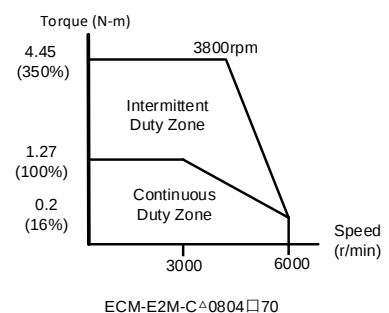
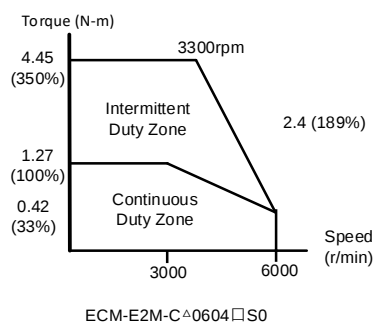
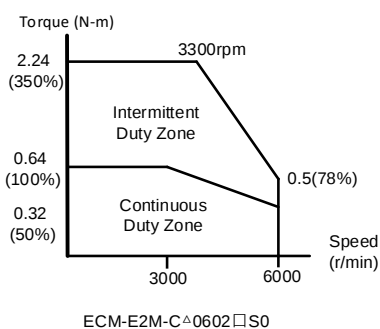
ECM-E2M	EΔ11	EΔ13
	12□S0	16□S0
Rated power (kW)	1.2	1.6
Rated torque (N-m) * ¹	6	7.7
Max. torque (N-m)	18	23.1
Rated speed (r/min)	2000	
Max. speed (r/min)	2500	
Rated current (Arms)	5.5	6.6
Max. instantaneous current (Arms)	16.2	19.9
Max. power per second (kW/s)	31.3	30.56
Rotor inertia (× 10 ⁻⁴ kg.m ²)	11.5	19.4
Mechanical constant (ms)	1.79	2.14
Torque constant-KT (N-m/A)	1.1	1.17
Voltage constant-KE (mV/(rpm))	40.76	42.3
Armature resistance (Ohm)	0.66	0.52
Armature inductance (mH)	2.56	2.38
Electric constant (ms)	3.88	3.94
Insulation class	Class B(CE)	
Insulation resistance	> 100MΩ, DC 500V	
Insulation strength	1.8k V _{AC} , 1 sec	
Weight (w/o brake) (kg)	6.9	8.33
Weight (with brake) (kg)	8.71	10.25
Max. radial loading (N)	600	900
Max. axial loading (N)	180	300
Power rating (kW/s) (with brake)	30.77	30.25
Rotor inertia (× 10 ⁻⁴ kg.m ²) (with brake)	11.7	19.6
Mechanical constant (ms) (with brake)	1.82	2.16
Brake holding torque [Nt-m (min)] * ²	6	7.7

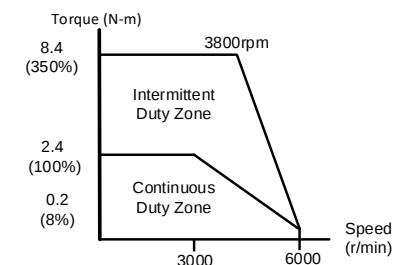
ECM-E2M	EΔ11	EΔ13
	12□S0	16□S0
Brake power consumption (W) (at 20°C)	20	25
Brake release time [ms (Max)]	90	120
Brake pull-in time [ms (Max)]	80	85
Vibration grade (μm)	15	
Operating temperature (°C)	0 ~ 40	
Storage temperature (°C)	-10 ~ 80	
Operating humidity	20 ~ 90%RH (non-condensing)	
Storage humidity	20 ~ 90%RH (non-condensing)	
Vibration capacity	2.5G	
IP rating	IP65	
Approval		

Note:

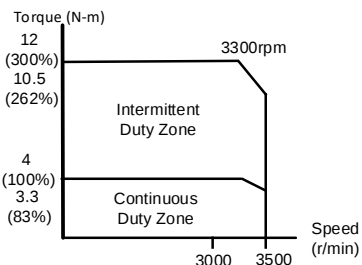
- The rated torque is the continuous permissible torque between 0 ~ 40°C operating temperature which is suitable for the following heat sink dimension.
 ECM-E2M-__11 : 330mm x 330mm x 15mm
 ECM-E2M-__13 : 400mm x 400mm x 20mm
 Material: Aluminum– F110, F130,
- The built-in brake of the servo motor is for clamping purpose. Do not use it to decelerate or stop the operation

3. Torque Features of ECM-E2M (T-N Curves)

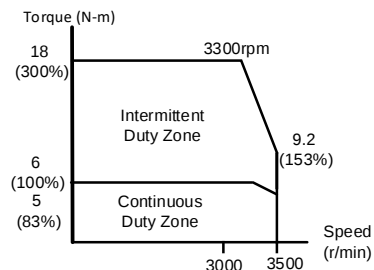




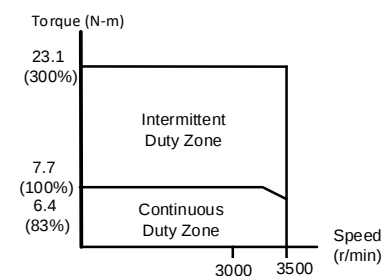
ECM-E2M-C^Δ0807□S0



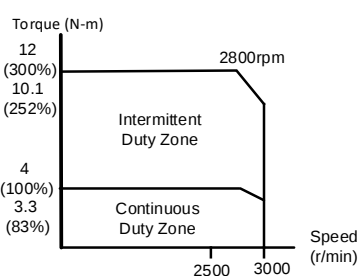
ECM-E2M-C^Δ1112□S0



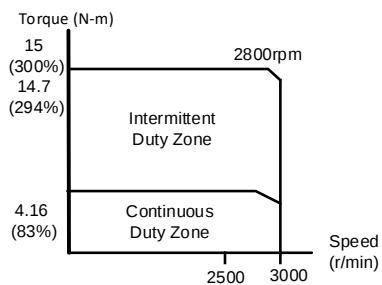
ECM-E2M-C^Δ1118□S0



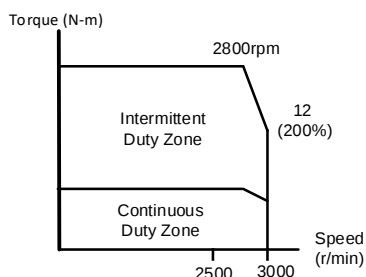
ECM-E2M-C^Δ1324□S0



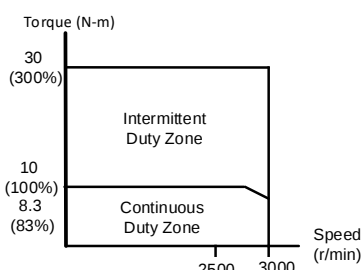
ECM-E2M-D^Δ1310□S0



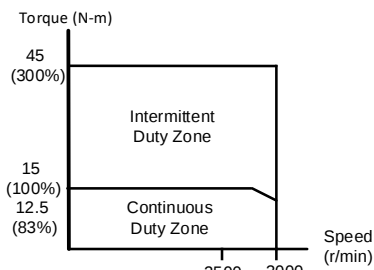
ECM-E2M-D^Δ1313□S0



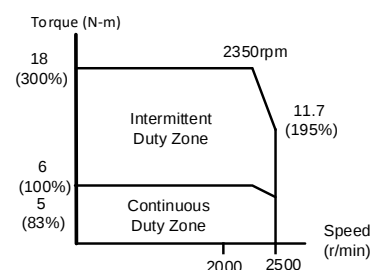
ECM-E2M-D^Δ1315□S0



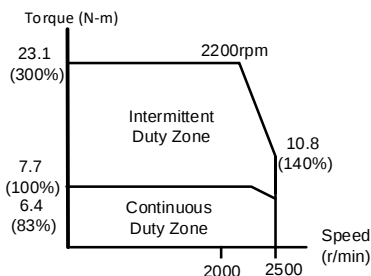
ECM-E2M-D^Δ1326□S0



ECM-E2M-D^Δ1538□S0



ECM-E2M-E^Δ1112□S0



ECM-E2M-E^Δ1316□S0

Note: Δ in motor model name represents encoder type; □ represents shaft type and oil seal.

4. Overload Features of ECM-E2M

Definition of overload protection

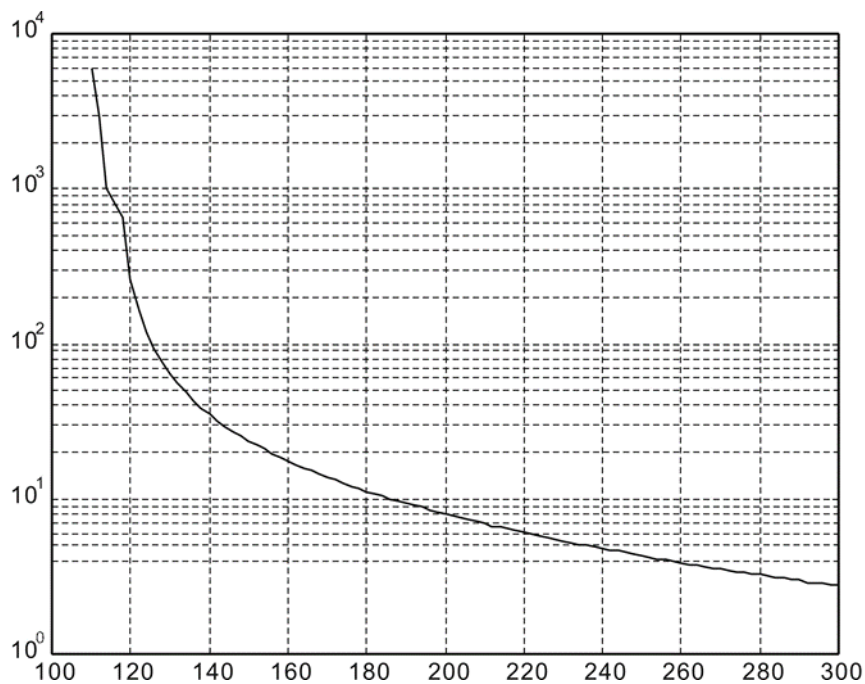
The overload protection is to prevent the motor in overheat status.

Cause of overload

- 1) When the motor operates over the rated torque, the operation time is too long
- 2) The inertia ratio is set too big and frequently accelerate / decelerate
- 3) Connection error between the power cable and encoder wiring
- 4) Servo gain setting error and cause resonance of the motor
- 5) The motor with brake operates without releasing the brake

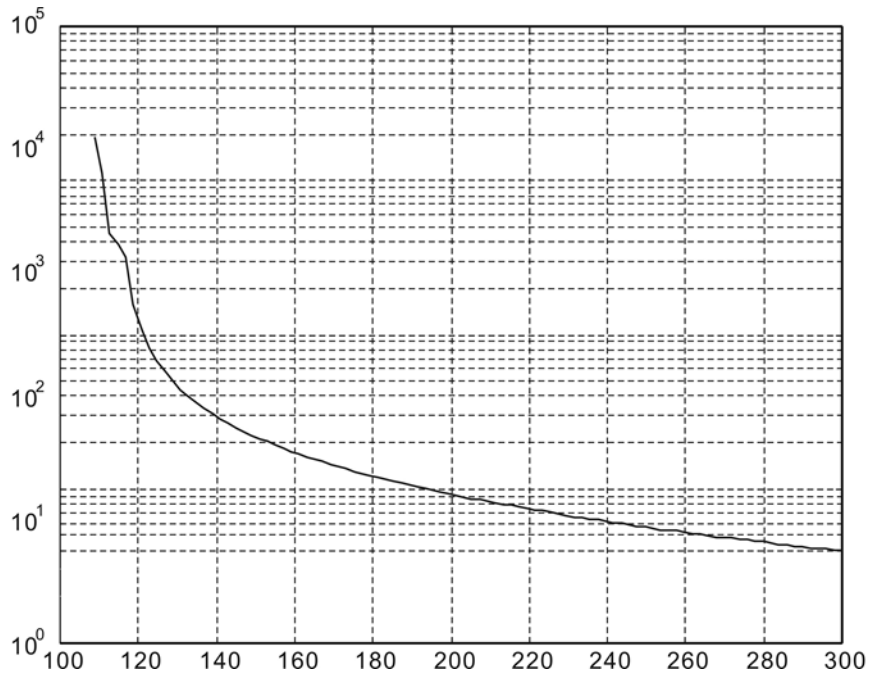
The graph of load and operating time

ECM-E2M-C Series



Load	Operating time
120%	263.8s
140%	35.2s
160%	17.6s
180%	11.2s
200%	8s
220%	6.1s
240%	4.8s
260%	3.9s
280%	3.3s
300%	2.8s

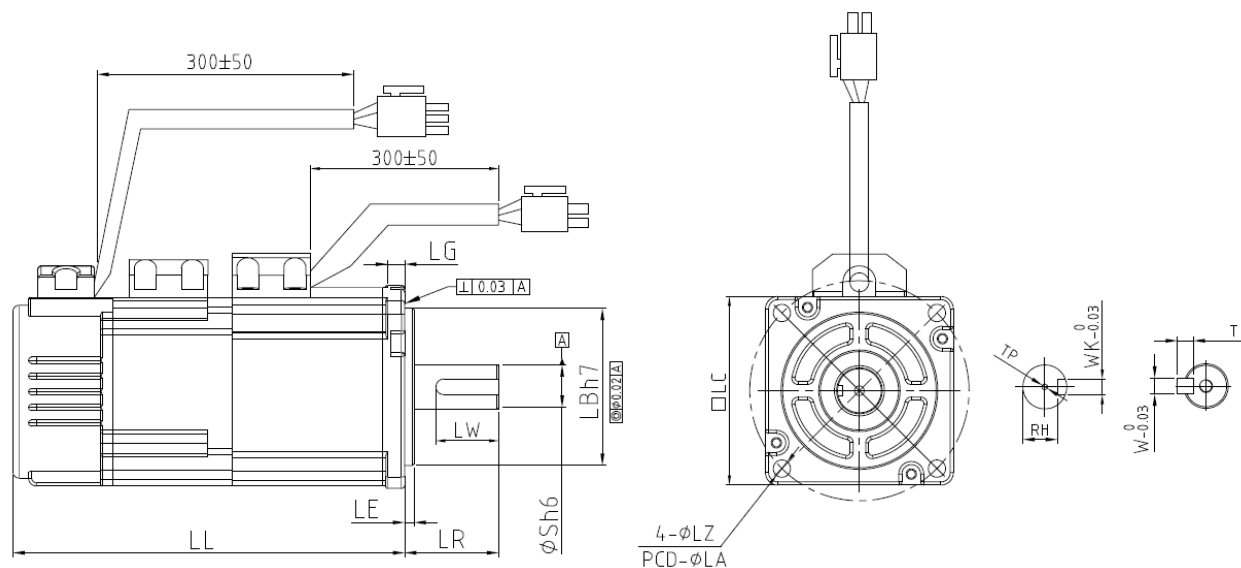
ECM-E2M-D/E Series



Load	Operating time
120%	527.6s
140%	70.4s
160%	35.2s
180%	22.4s
200%	16s
220%	12.2s
240%	9.6s
260%	7.8s
280%	6.6s
300%	5.6s

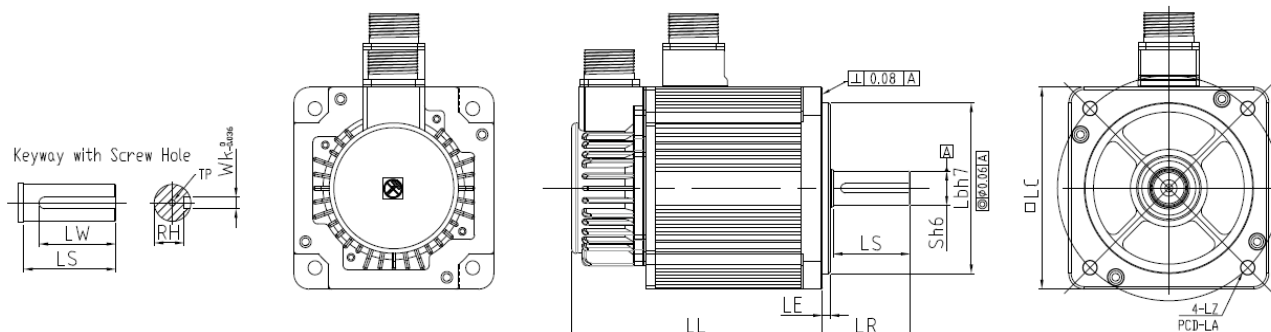
5. Dimensions of ECM-E2M

Motor frame size: 60 mm / 80 mm

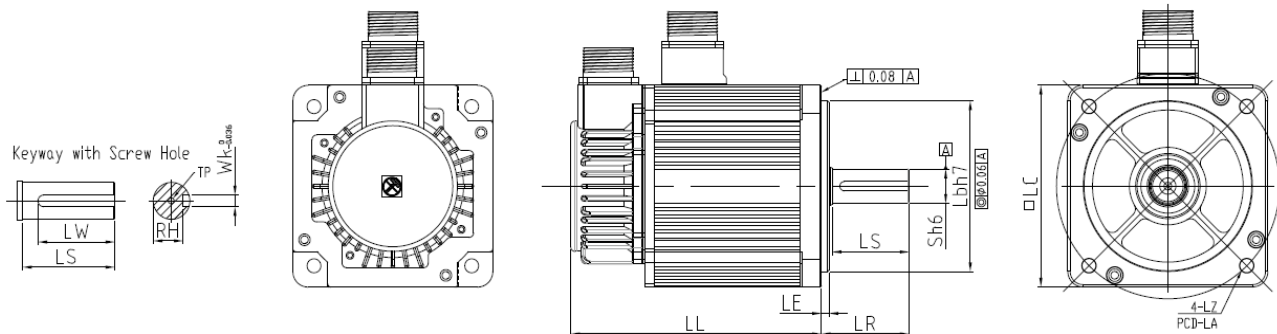


Model	CΔ0602□S0	CΔ0604□S0	CΔ0804□70	CΔ0807□S0
LC	60	60	80	80
LZ	5.5	5.5	6.6	6.6
LA	70	70	90	90
S	14	14	14	19
LB	50	50	70	70
LL (w/o brake)	95	115	110	130
LL (with brake)	134	154	146	166
LR	30	30	30	35
LE	3	3	3	3
LG	6.5	6.5	9	9
LW	20	20	20	25
RH	11	11	11	15.5
WK	5	5	5	6
W	5	5	5	6
T	5	5	5	6
TP	M4 Depth 15	M4 Depth 15	M4 Depth 15	M5 Depth 20

Motor frame size: 110 mm / 130 mm / 150 mm



Model	CΔ1112□S0	CΔ1118□S0	EΔ1112□S0	DΔ1315□S0	CΔ1324□S0
LC	110	110	110	130	130
LZ	9	9	9	9	9
LA	130	130	130	145	145
S	19	19	19	22	22
LB	95	95	95	110	110
LL (w/o brake)	185	217	217	179	192
LL (with brake)	227	259	259	221	234
LS	48	48	48	50	50
LR	56	56	56	58	58
LE	5	5	5	6	6
LW	40	40	40	40	40
RH	15.5	15.5	15.5	18.5	18.5
WK	6	6	6	6	6
TP	M6 Depth 20	M6 Depth 20	M6 Depth 20	M6 Depth 20	M6 Depth 20



Model	DΔ1326□S0	DΔ1310□S0	DΔ1313□S0	EΔ1316□S0	DΔ1538□S0
LC	130	130	130	130	150
LZ	9	9	9	9	11
LA	145	145	145	145	174
S	22	22	22	22	28
LB	110	110	110	110	130
LL (w/o brake)	209	163	171	192	231
LL (with brake)	261	205	213	234	293
LS	50	50	50	50	72
LR	58	58	58	58	81
LE	6	6	6	6	6
LW	40	40	40	40	60
RH	18.5	18.5	18.5	18.5	24
WK	6	6	6	6	8
TP	M6 Depth 20	M6 Depth 20	M6 Depth 20	M6 Depth 20	M6 Depth 20

Note:

- 1) Dimensions are in millimeters.
- 2) Dimensions and weights of the servo motor may be updated without prior notice.
- 3) □ in the model names represents shaft end/brake or the number of oil seal.
- 4) Δ in the model names represents encoder type.

ASD-B2L Servo Drive and ECM-E2M Servo motor

Motor					Servo Drive				
Series	Power	Output (W)	Model name	Rated current (Arms)	Max. instant aneous current (Arms)	Model name	Contin uous output current (Arms)	Max. instant aneous current (Arms)	
Medium inertia	ECM-E2M	Single- /Three- phase	200	ECM- E2M-CΔ0602□S0	1.55	5.7	ASD-B2L-0221-□	1.55	4.65
			400	ECM- E2M-CΔ0604□S0	2.6	9.8	ASD-B2L-0421-□	2.60	7.80
			400	ECM- E2M-CΔ0804□70	2.65	9.4			
			750	ECM- E2M-CΔ0807□S0	4.75	17.1	ASD-B2L-0721-□	5.10	15.30
			1000	ECM- E2M-DΔ1310□S0	4.70	14.00			
			1200	ECM- E2M-CΔ1112□S0	5.50	16.10	ASD-B2L-1021-□	7.30	21.90
			1800	ECM- E2M-CΔ1118□S0	7.30	21.00			
			1300	ECM- E2M-DΔ1313□S0	5.80	17.10			
			1500	ECM- E2M-DΔ1315□S0	6.60	19.70			
			1200	ECM- E2M-EΔ1112□S0	5.30	15.80			
			1600	ECM- E2M-EΔ1316□S0	6.60	19.90			
			2400	ECM- E2M-CΔ1324□S0	10.80	32.00	ASD-B2L-2023-□	13.40	40.20
			2600	ECM- E2M-DΔ1326□S0	11.50	34.60			
					3800	ECM- E2M-DΔ1538□S0	16.50	49.20	ASD-B2L-3023-□

Note:

- 1) The boxes (□) at the ends of the servo drive model names are the mode code of ASD-B2.
- 2) The boxes (△) in the model names are for encoder resolution types. △=1: Incremental type, 20-bit; △=A: Absolute type; △=G: Incremental magnetic type.
- 3) The boxes (□) in the motor model names represents brake or keyway / oil seal.