

Automation for a Changing World

Delta AC Servo Drive & Motor ASDA-B2 Series



www.deltaww.com

 **DELTA**
Smarter. Greener. Together.

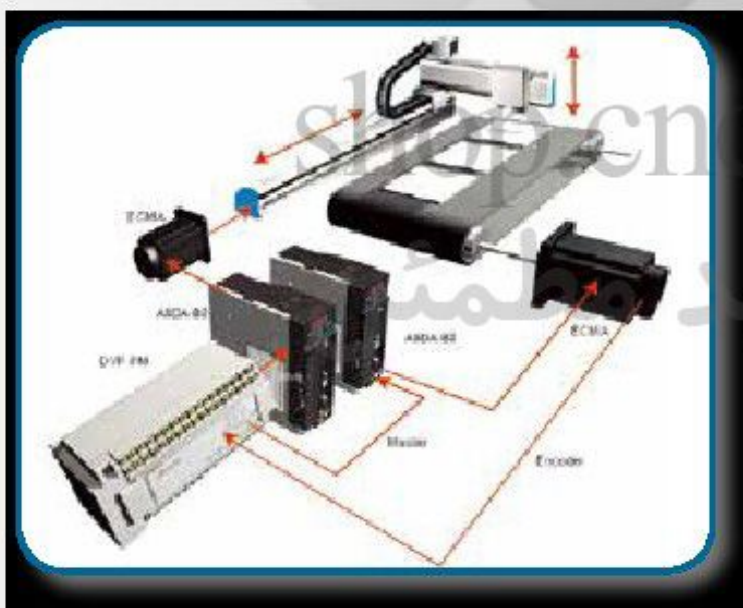
تهران، خیابان سهدی جنوبی، چهارراه اکباتان، کوچه ناظم الاطبا شمالی، ابتدای کوچه، پلاک ۱۶۷
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High Precision. High Response. Cost Effective.

The high-performance, cost-effective ASDA-B2 Series servo motors and drives meet the requirements for general-purpose machine control applications in the industrial automation market and enhance the competitive advantage of servo systems.

The power rating of the ASDA-B2 Series ranges from 0.1kW to 3kW. The superior features of this series emphasize built-in motion control functions for general purpose applications and saving the cost of mechatronics integration. Delta's ASDA-B2 makes setting assembly, wiring, and operation convenient. In switching from other brands to Delta's ASDA-B2, the outstanding quality and features, and complete product lineup makes replacement simple and scalable. Customers that choose this value-based product gain noticeable competitive advantages in their market space. All of Delta's ASDA-B2 Series meet UL, cUL, CE, and RoHS standards.

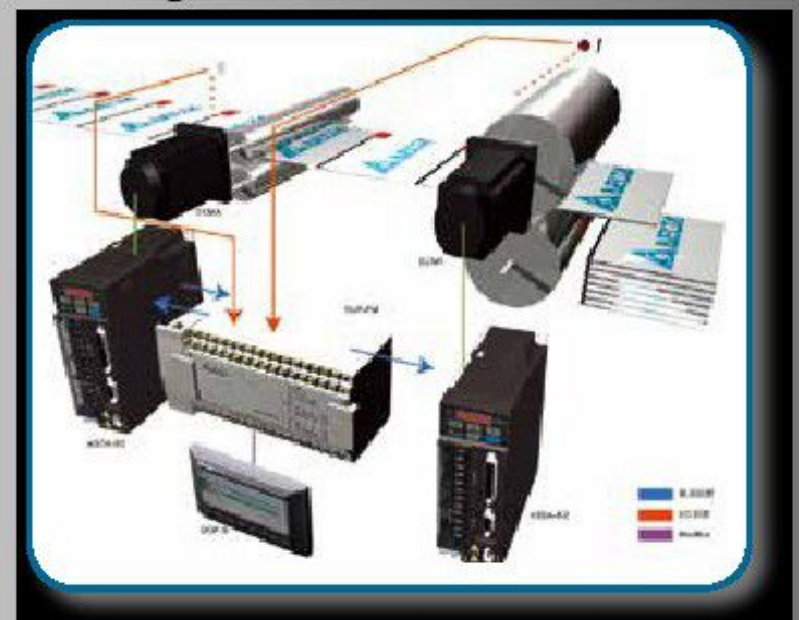
Transporting and Conveying Equipment



Electric Discharge Machines (EDM)



Cutting Machines



CNC PARTS

Sawing Machines



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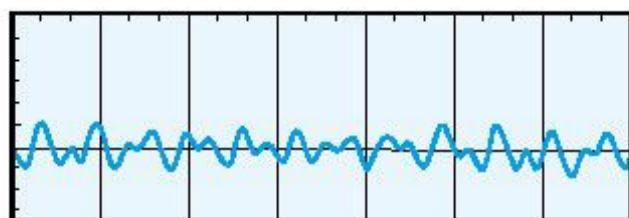


Product Features

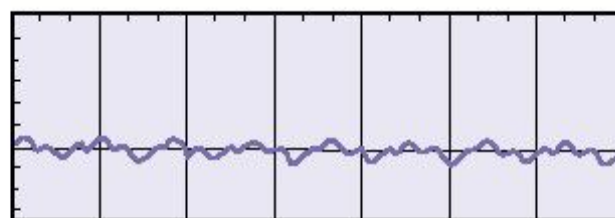
Implements High Precision Positioning Control

- ▶ ASDA-B2 Series servo drive supports 20-bit and 17-bit encoders. It satisfies the demand for high-precision positioning control and stable operation with lower speed.
- ▶ Applying the encoder with a higher resolution can reduce the cogging torque and improve the motor's precision.

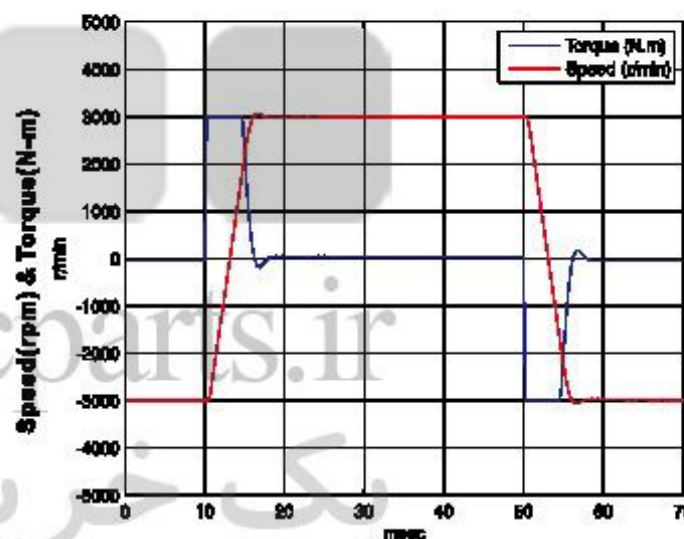
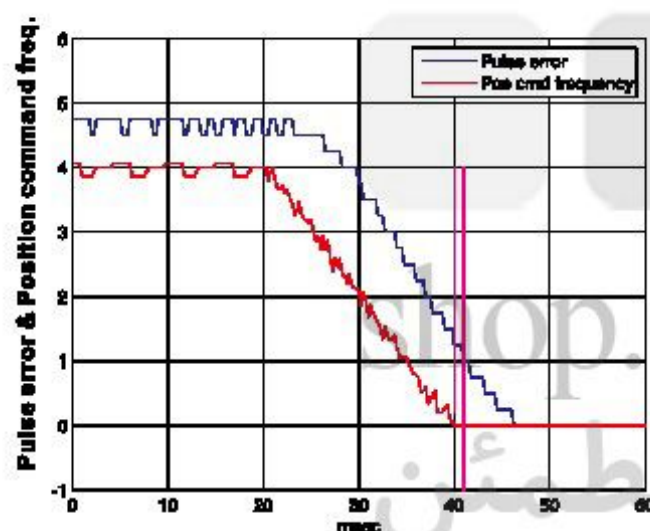
2500ppr of Torque Ripple



17-bit of Torque Ripple



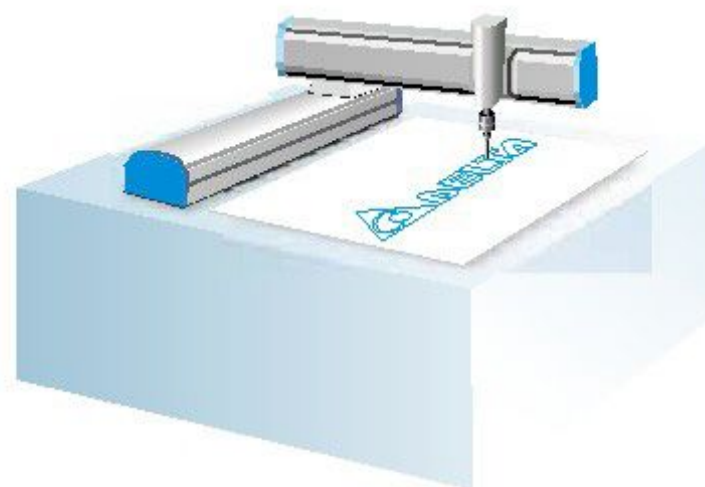
- ▶ Outstanding performance with higher speed: Up to 550Hz frequency response and settling time is below 1ms.
- ▶ 10ms acceleration time from -3000r/min to 3000r/min when running without a load.



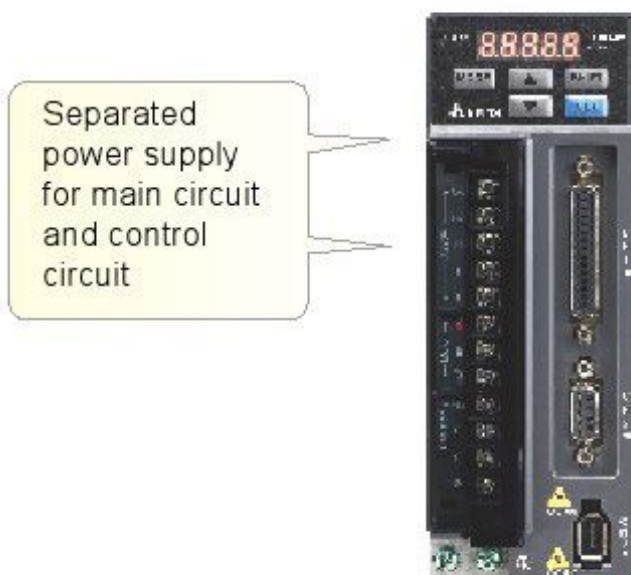
Example: Frame size 60mm and 400W servo motor.

Satisfies a Variety of Industry Requirements

- ▶ Three control modes available: Built-in position, Speed, and Torque. (Speed and Torque mode can be controlled by internal parameters or analog voltage.)
- ▶ High-speed differential command (up to 4Mpps) for high precision positioning control.
- ▶ Three notch filters are provided to suppress the mechanical resonance efficiently and make the system operate more smoothly.
- ▶ Lead friction compensation parameter is specified for the application of circular interpolation, Z-axis motion and ball screw, and others to reduce the loading of the controller.
- ▶ For bar feeders and other equipment requiring high torque output, motor protection parameters are offered to protect the mechanical system.



Offers Easy-To-Install Solution For Simple Start-Up

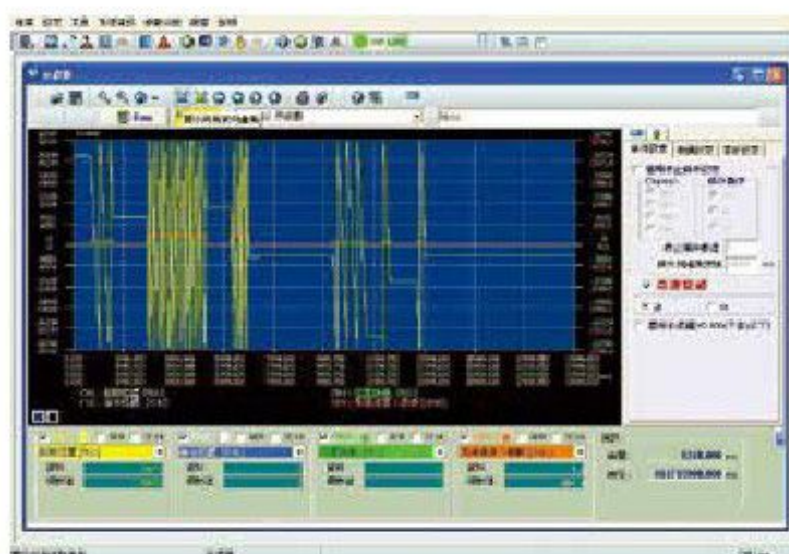


- ▶ ASDA-B Series share the same power cables and encoder cables for easy installation and setup without extra accessories.
- ▶ Servo motor provides brake, oil seal, and other optional configurations for different applications.
- ▶ Separated power supply for main circuit and control circuit makes it easier to maintain the mechanism.
- ▶ 400W or above servo drives have built-in regenerative resistors, which simplify wiring and reduce the installation cost.
- ▶ Individual connectors (2 sets) for analog signal output, also simplifies the wiring.



Fulfills Easy-To-Use Requirements For Versatile Operation

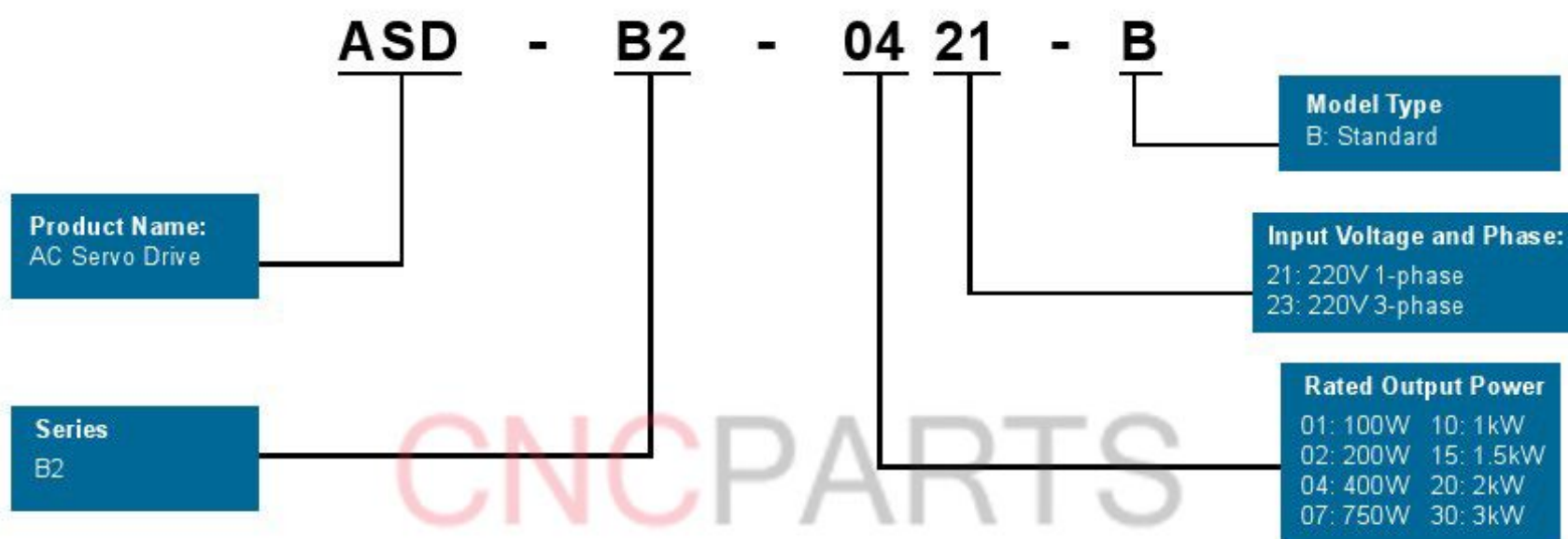
- ▶ User-friendly motor sizing software allows users to select the motor.
- ▶ ASDA-Soft configuration software (tuning software) is provided to meet performance requirements quickly.
- ▶ Easy-to-use digital keypad is ideal for setting parameters and enables users to directly monitor the servo drive and servo motor.
- ▶ Specific software communication cable ASD-CNUS0A08 (Optional) can improve communication quality and convenience of operation. (please refer to optional accessories on page 28)



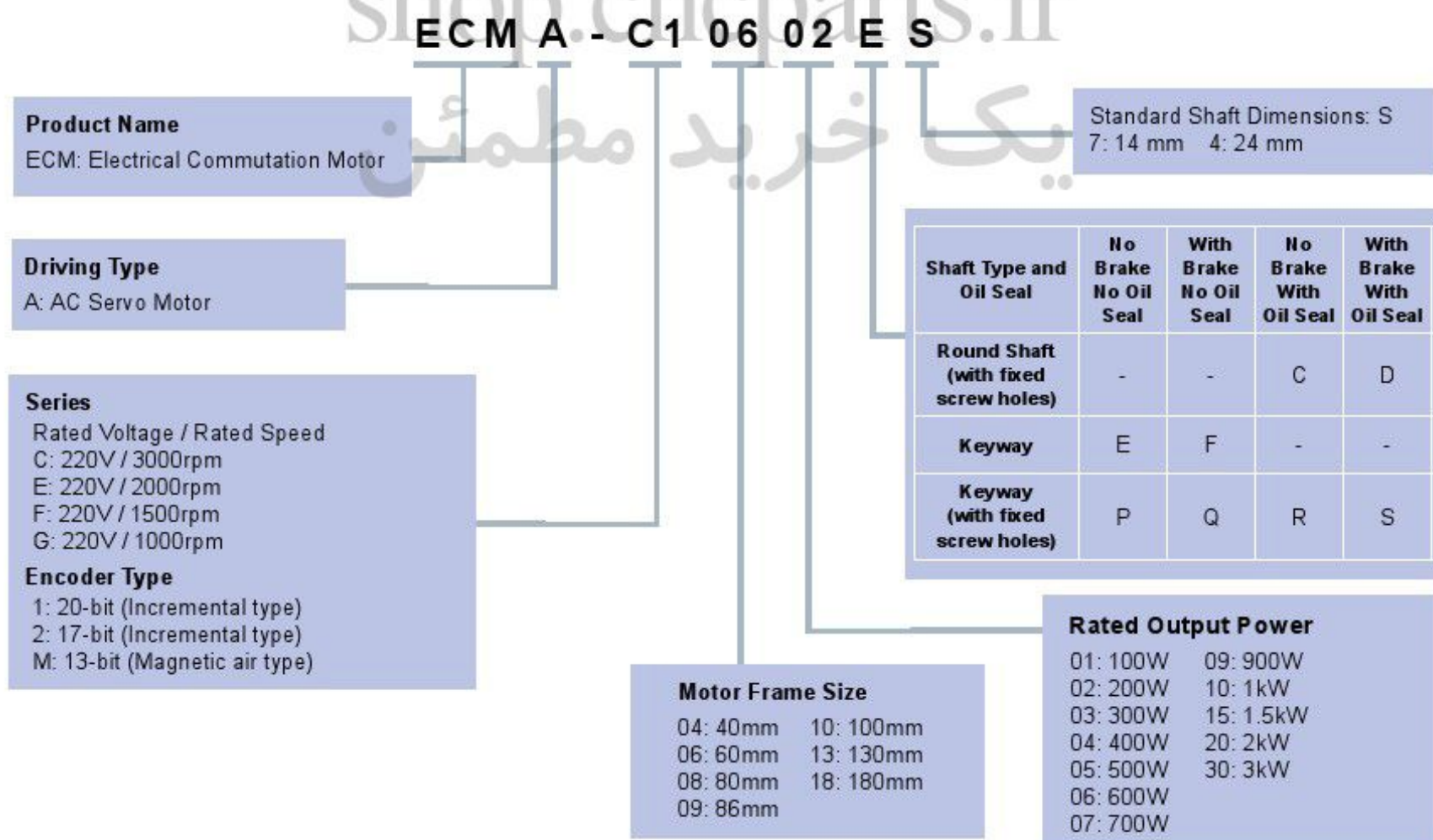
Parameter No.	Parameter Name	Factory Default	Setting Range	Resolution	Unit	Description
P0-00	Motor No.	00000000	00000000~00000000	1	bit	Motor No. (0~255)
P0-01	Motor Name	ASDA-B	0~255	1	bit	Motor Name (0~255)
P0-02	Motor Power	0.00000000	0.00000000~0.00000000	0.00000001	W	Motor Power (0.00000000~0.00000000)
P0-03	Motor Torque	0.00000000	0.00000000~0.00000000	0.00000001	Nm	Motor Torque (0.00000000~0.00000000)
P0-04	Motor Speed	0.00000000	0.00000000~0.00000000	0.00000001	rpm	Motor Speed (0.00000000~0.00000000)
P0-05	Motor Position	0.00000000	0.00000000~0.00000000	0.00000001	deg	Motor Position (0.00000000~0.00000000)
P0-06	Motor Temperature	0.00000000	0.00000000~0.00000000	0.00000001	°C	Motor Temperature (0.00000000~0.00000000)
P0-07	Motor Current	0.00000000	0.00000000~0.00000000	0.00000001	A	Motor Current (0.00000000~0.00000000)
P0-08	Motor Voltage	0.00000000	0.00000000~0.00000000	0.00000001	V	Motor Voltage (0.00000000~0.00000000)
P0-09	Motor Frequency	0.00000000	0.00000000~0.00000000	0.00000001	Hz	Motor Frequency (0.00000000~0.00000000)
P0-10	Motor Acceleration	0.00000000	0.00000000~0.00000000	0.00000001	m/s²	Motor Acceleration (0.00000000~0.00000000)
P0-11	Motor Deceleration	0.00000000	0.00000000~0.00000000	0.00000001	m/s²	Motor Deceleration (0.00000000~0.00000000)
P0-12	Motor Jerk	0.00000000	0.00000000~0.00000000	0.00000001	m/s³	Motor Jerk (0.00000000~0.00000000)
P0-13	Motor Run Time	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Run Time (0.00000000~0.00000000)
P0-14	Motor Stop Time	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Stop Time (0.00000000~0.00000000)
P0-15	Motor Fault Time	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Time (0.00000000~0.00000000)
P0-16	Motor Fault Count	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Count (0.00000000~0.00000000)
P0-17	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-18	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-19	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-20	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-21	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-22	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-23	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-24	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-25	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-26	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-27	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-28	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-29	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-30	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-31	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-32	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-33	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-34	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-35	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-36	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-37	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-38	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-39	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-40	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-41	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-42	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-43	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-44	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-45	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-46	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-47	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-48	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-49	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-50	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-51	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-52	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-53	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-54	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-55	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-56	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-57	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-58	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-59	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-60	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-61	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-62	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-63	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-64	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-65	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-66	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-67	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-68	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-69	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-70	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-71	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-72	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-73	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-74	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-75	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-76	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-77	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-78	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-79	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-80	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-81	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-82	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-83	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-84	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-85	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-86	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-87	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-88	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-89	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-90	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-91	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-92	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-93	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-94	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-95	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)
P0-96	Motor Fault Alarm	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Alarm (0.00000000~0.00000000)
P0-97	Motor Fault Reset	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Reset (0.00000000~0.00000000)
P0-98	Motor Fault Clear	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Clear (0.00000000~0.00000000)
P0-99	Motor Fault Status	0.00000000	0.00000000~0.00000000	0.00000001	h	Motor Fault Status (0.00000000~0.00000000)

Model Name Explanation

ASDA-B2 Series Servo Drives



ECMA Series Servo Motors



Product Line-up

Servo Drive										
	0.1kW	200 W	400 W	750 W	1.0 kW	1.5 kW	2 kW	3 kW		
	ASD-B2-0121- B	ASD-B2-0221- B	ASD-B2-0421- B	ASD-B2-0721-B	ASD-B2-1021-B	ASD-B2-1521-B	ASD-B2-2023-B	ASD-B2-3023- B		

Servo Motor																
	ECMA-C Δ0401 □S	ECMA-C Δ0602 □S	ECMA-C Δ0604 □S ECMA-C Δ0604 □H ECMA-C Δ0804 □7 ECMA-E Δ1305 □S ECMA-G Δ1303 □S	ECMA-C Δ0807 □S ECMA-C Δ0807 □H ECMA-G Δ1306 □S ECMA-GM1306PS ECMA-C Δ0907 □S	ECMA-C Δ1010 □S ECMA-E Δ1310 □S ECMA-G Δ1309 □S ECMA-GM1309PS ECMA-C Δ0910 □S ECMA-F Δ1308 □S	ECMAE Δ1315 □S	ECMA-C Δ1020 □S ECMAF Δ1313 □S ECMAE Δ1320 □S ECMAE Δ1820 □S ECMAF Δ1318 □S	ECMAE Δ1830 □S ECMAF Δ1830 □S ECMAE Δ1835 □S ECMA-C Δ1330 □4								

Note:

1. (□) in the model names represent shaft end/brake or the number of oil seals.

2. (Δ) in the model names represent encoder types (Δ=1: Incremental encoder, 20-bit; Δ=2: Incremental encoder, 17-bit).

Part Names and Functions

LED Display

- The 5-digit, 7-segment LED displays the servo status or fault codes.

Charge LED

- A lit LED indicates that either power is connected to the servo drive or a residual charge is present in the drive's internal power components.

Operation Panel

- Function keys used to perform status display, monitor and diagnostic, function and parameter setting.

Function Keys:

MODE: Mode selection

SHIFT: For shifting the cursor to the left

▲ : For increasing values

▼ : For decreasing values

SET: For storing data

Control Circuit Terminal (L1c, L2c)

- Used to connect 200~230V_{AC}, 50/60Hz single-phase or three-phase V_{AC} supply.

Main Circuit Terminal (R, S, T)

- Used to connect 200~230V_{AC}, 50/60Hz commercial power supply.

Servo Motor Output (U, V, W)

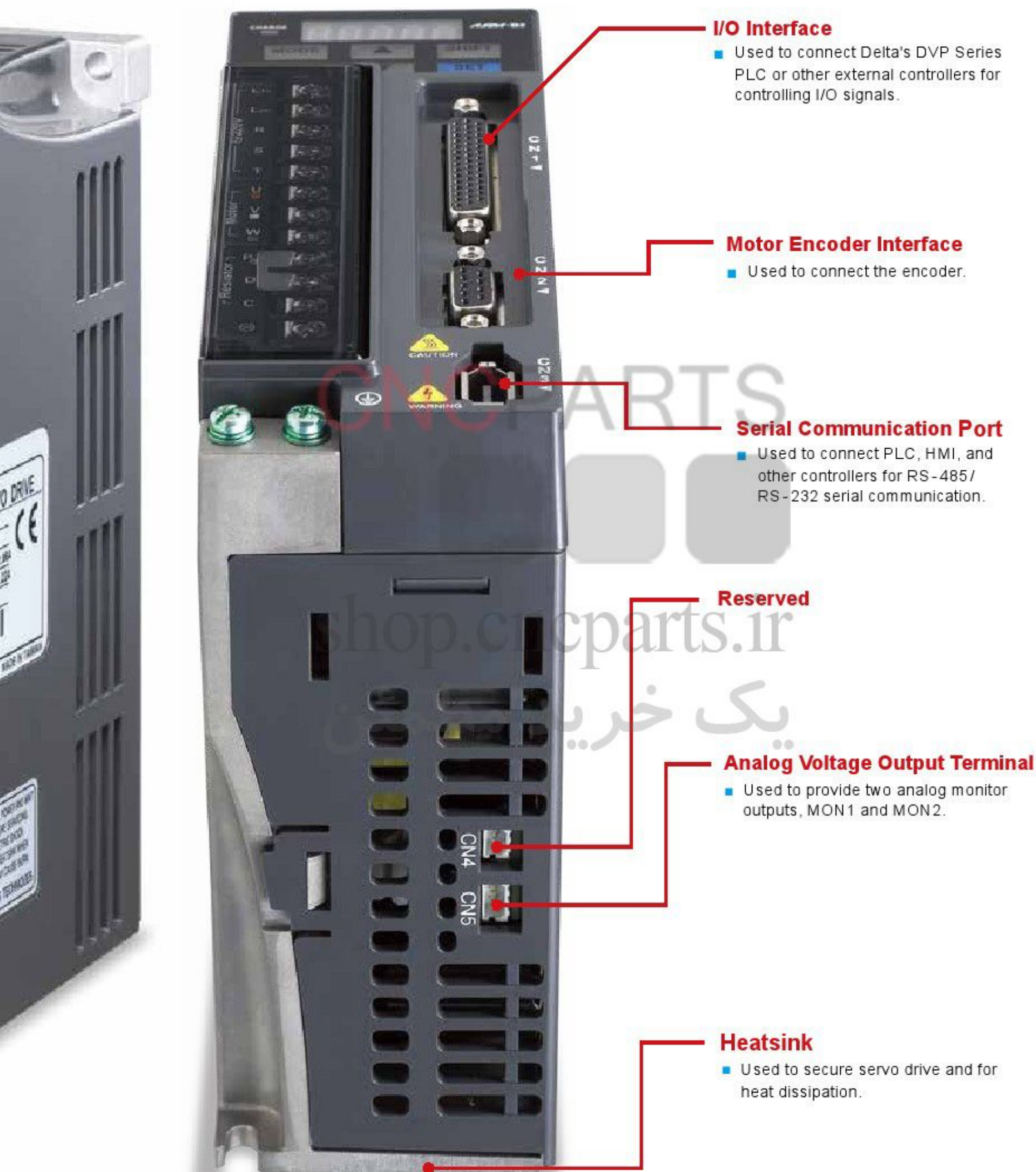
- Used to connect the servo motor. Never connect the output terminal to the main circuit power as the AC servo drive may be damaged beyond repair if incorrect cables are connected to the output terminals.

Regenerative Resistor

- When using an external resistor, connect it to P ⊕ and C, and ensure an open circuit between P ⊕ and D.
- When using an internal resistor, ensure the circuit is closed between P ⊕ and D, and the circuit is open between P ⊕ and C.
- When using external braking unit, connect braking unit to P ⊕ and ⊖, and ensure an open circuit between P ⊕ and D, and P ⊕ and C.

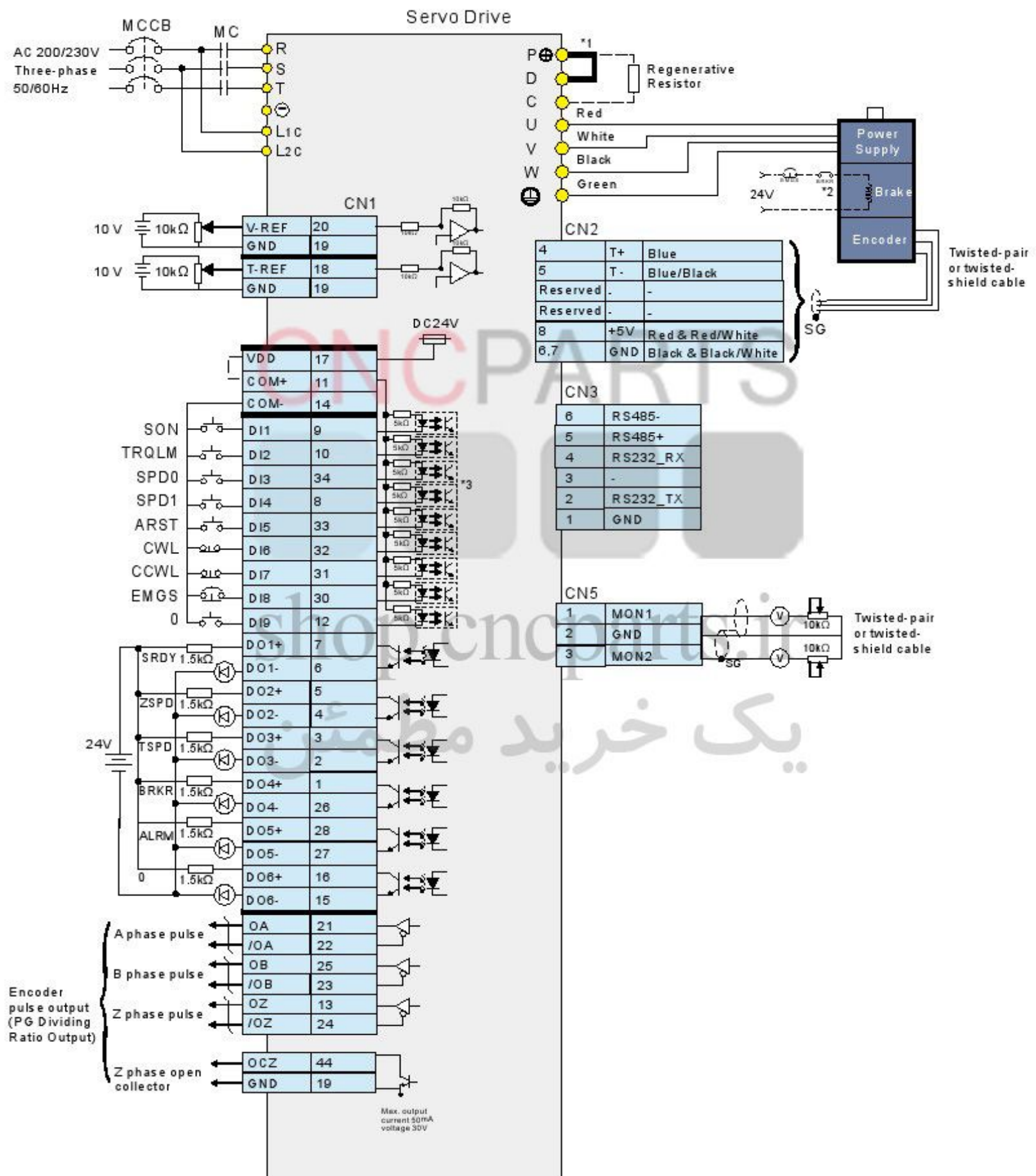
Ground Terminal





Please note that this only introduces a servo drive's basic functions. Specific models may have different functions.

Speed (S) Control Mode

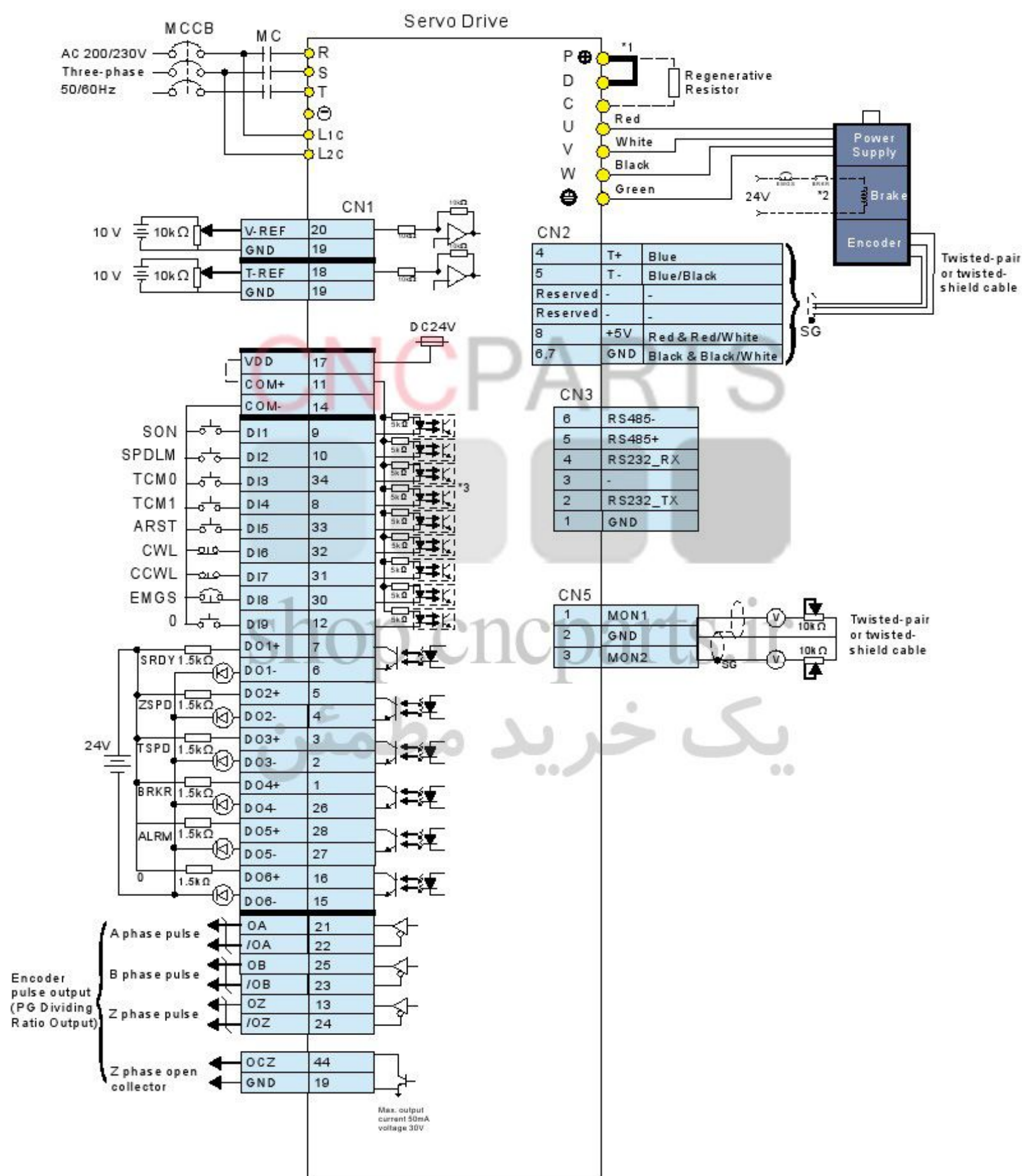


NOTE:

- *1. 200W and below drives do not provide built-in regenerative resistor.
- *2. The brake coil has no polarity.
- *3. Please refer to SINK / SOURCE modes

Wiring

Torque (T) Control Mode



Selection of Regenerative Resistor

Servo Drive (kW)	Recommended Specifications for Built-in Regenerative Resistor		The capacity of built-in regenerative resistor (Watt)	Min. Allowable Resistance (Ohm)
	Resistance (Ohm) (parameter P1-52)	Capacity (Watt) (parameter P1-53)		
0.1	--	--	--	60Ω
0.2	--	--	--	60Ω
0.4	100Ω	60W	30W	60Ω
0.75	100Ω	60W	30W	60Ω
1.0	40Ω	60W	30W	30Ω
1.5	40Ω	60W	30W	30Ω
2.0	20Ω	100W	50W	15Ω
3.0	20Ω	100W	50W	15Ω

Note:

- 1) 100W ~ 200W of B2 servo drives have no built-in regenerative resistor.
- 2) When the fault, ALE05 (Regeneration Error) occurs, please increase the regenerative resistor capacity or decrease the regenerative resistor resistance (the regenerative resistor resistance should not be less than the minimum allowable resistance listed in the above table.)
- 3) If the issue persists, please purchase a regenerative resistor module.
- 4) When connecting to a regenerative resistor in parallel, make sure that the total resistance value of the regenerative resistors is not less than the minimum allowable resistance listed in the above table.

Safety Information

Global Standards	ASDA-B2 Series is designed to fully comply with demanding international standards, such as IEC and EN for all fields of industrial automation technology.
EMC Standard	EN61000-4-6 Level 3
	EN61000-4-3 Level 3
	EN61000-4-2 Level 2 and Level 3
	EN61000-4-4 Level 3
	EN61000-4-8 Level 4
	EN61000-4-5 Level 3
Conducted & Radiated Emissions	Complies with EN550011 Group 1, Class A, with external EMC filter
CE Marking	CE recognized. Complies with Directive 2006/95/EC of the European Parliament and EMC Directive 2004/108/EC.
Protection Degree	IEC/EN50178, IEC/EN60529 IP20
Vibration	1 G less than 20 Hz, 0.6 G 20 to 50 Hz. Complies with IEC/EN50178
Shock	15gn 11 ms. Complies with IEC/EN600028-2-27
Pollution Degree	Degree 2. Complies with IEC/EN61800-5-1
Ambient Temperature	Operating: 0°C ~ 55°C (If operating temperature exceeds the specifications, forced cooling will be required.) Storage: -20°C ~ 65°C
Cooling Type	ASD-B2-0121-B, ASD-B2-0221-B, ASD-B2-0421-B, ASD-B2-0721-B Natural Air Circulation
	ASD-B2-1021-B, ASD-B2-1521-B, ASD-B2-2023-B, ASD-B2-3023-B Fan Cooling
Altitude	Altitude 1000m or lower above sea level

IEC: International Electrotechnical Commission

EN: Europäischen Normen

EMC: Electromagnetic Compatibility

IP: Ingress Protection Ratings

Specifications

ASDA-B2 Series			100 W	200 W	400 W	750 W	1 kW	1.5 kW	2 kW	3 kW
			01	02	04	07	10	15	20	30
Power Supply	Phase / Voltage		Three-phase 170 ~ 255 V _{AC} , 50/60 Hz ±5%						Three - phase 170 ~ 255 V _{AC} , 50/60Hz ±5%	
			Single-phase 200 ~ 255 V _{AC} , 50/60 Hz ±5%							
	Input Current (3PH) (Units : Arm ⚡)		0.7	1.11	1.86	3.66	4.68	5.9	8.76	9.83
	Input Current (1PH) (Units : Arm ⚡)		0.9	1.92	3.22	6.78	8.88	10.3	-	-
Continuous Output Current (Units : Arm ⚡)			0.9	1.55	2.6	5.1	7.3	8.3	13.4	19.4
Cooling System			Natural Air Circulation				Fan Cooling			
Encoder Resolution			17-bit (160,000 p/rev)							
Main Circuit Control			SVPWM (Space Vector Pulse Width Modulation) Control							
Control Mode			Auto / Manual							
Regenerative Resistor			None		Built-in					
Position Control Mode	Max. Input Pulse Frequency		Transmitted by differential: 500K (low speed) / 4Mpps (high-speed) Transmitted by 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		Electronic gear N/M multiple N: 1 ~ (2 ²⁰ -1) / M: 1 ~ (2 ³¹ -1) (1/50 < N/M < 25600)							
	Torque Limit Operation		Set by parameters							
	Feed Forward Compensation		Set by parameters							
Speed Control Mode	Analog Input Command	Voltage Range	0 ~ ±10V _{DC}							
		Input Resistance	10KΩ							
		Time Constant	2.2 μs							
	Speed Control Range ^{*1}		1:5000							
	Command Source		External analog signal / Internal parameters							
	Smoothing Strategy		Low-pass and S-curve filter							
	Torque Limit		Set by parameters or via analog input							
	Bandwidth		Maximum 550Hz							
	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										

Specifications

ASDA-B2 Series			100 W	200 W	400 W	750 W	1 kW	1.5 kW	2 kW	3 kW	
			01	02	04	07	10	15	20	30	
Torque Control Mode	Analog Input Command	Voltage Range	0 ~ ±10V _{DC}								
		Input Resistance	10KΩ								
		Time Constant	2.2μs								
	Command Source		External analog signal / Internal parameters								
	Smoothing Strategy		Low-pass filter								
	Speed Limit		Set by parameters or via analog input								
Analog Monitor Output			Monitor signal can set by parameters (Output voltage range: ±8 V)								
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	Encoder signal output (A, B, Z Line Driver / Z Open collector) 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 Functions			Over current, Overvoltage, Under voltage, Overheat, Excessive speed deviation, Excessive position deviation, Encoder error, Emergency stop, Communication error, Short-circuit protection of terminal U, V, W and CN1, CN2, CN3								
Communication Interface			RS-232 / RS-485								
Environment	Installation Site		Indoor location (avoid direct sunlight), no corrosive liquid and gas (avoid oil mist, flammable gas, dust)								
	Altitude		Altitude 1000m or lower above sea level								
	Atmospheric Pressure		86kPa ~ 106kPa								
	Operating Temperature		0℃ ~ 55℃ (If operating temperature is above 45℃, forced cooling will be required)								
	Storage Temperature		-20℃ ~ 65℃ (-4℉ to 149℉)								
	Humidity		0 to 90% (non-condensing)								
	Vibration		Under 20Hz, 9.80665m/s ² (1G), 20 ~ 50Hz 5.88m/s ² (0.6G)								
	IP Rating		IP 20								
	Power System		TN System ³								
Certifications			IEC/EN 61800-5-1   LISTED 								

Footnote:

*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.



Dimensions

ASD-B2-0121

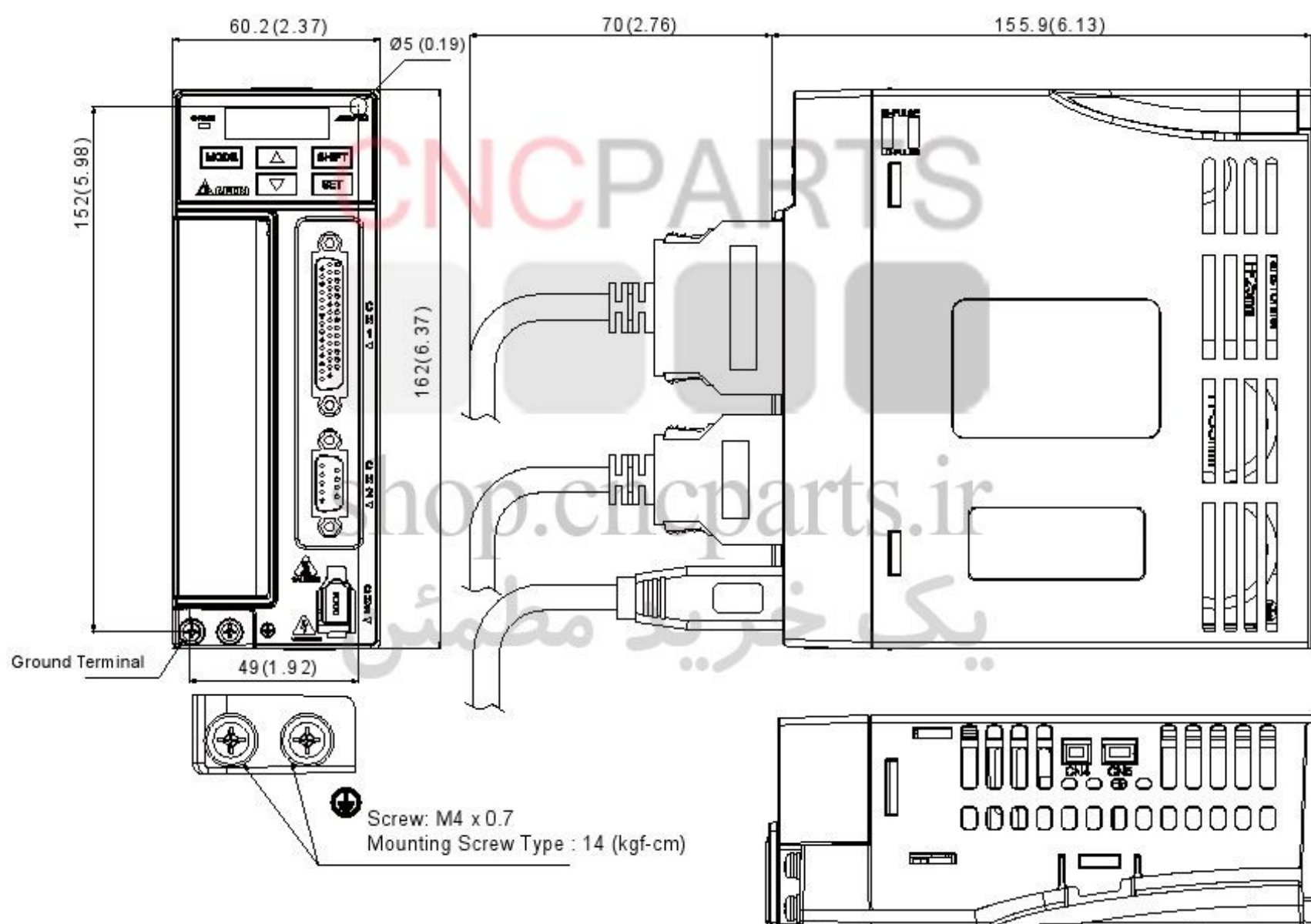
ASD-B2-0221

ASD-B2-0421

(100W / 200W / 400W)

Weight

1.07 (2.36)



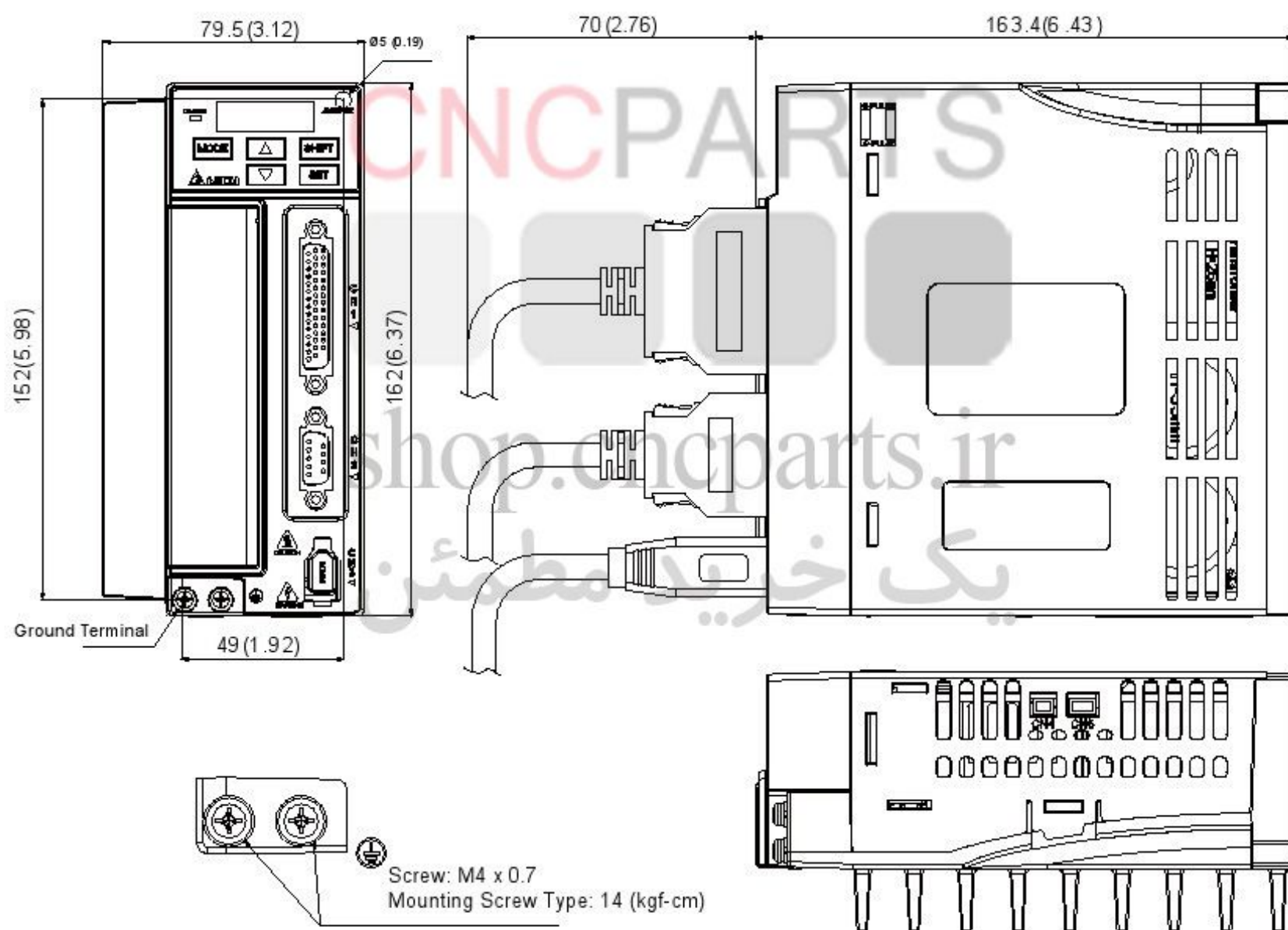
NOTE

- 1) Dimensions are in millimeters (inches); Weights are in kilograms (kg) and pounds (lbs).
- 2) Dimensions and weights of the servo drive may be updated without prior notice.

ASD-B2-0721 (750W)

Weight

1.54 (3.40)



NOTE

- 1) Dimensions are in millimeters (mm); Weights are in kilograms (kg) and pounds (lbs).
- 2) Dimensions and weights of the servo drive may be updated without prior notice.

Dimensions

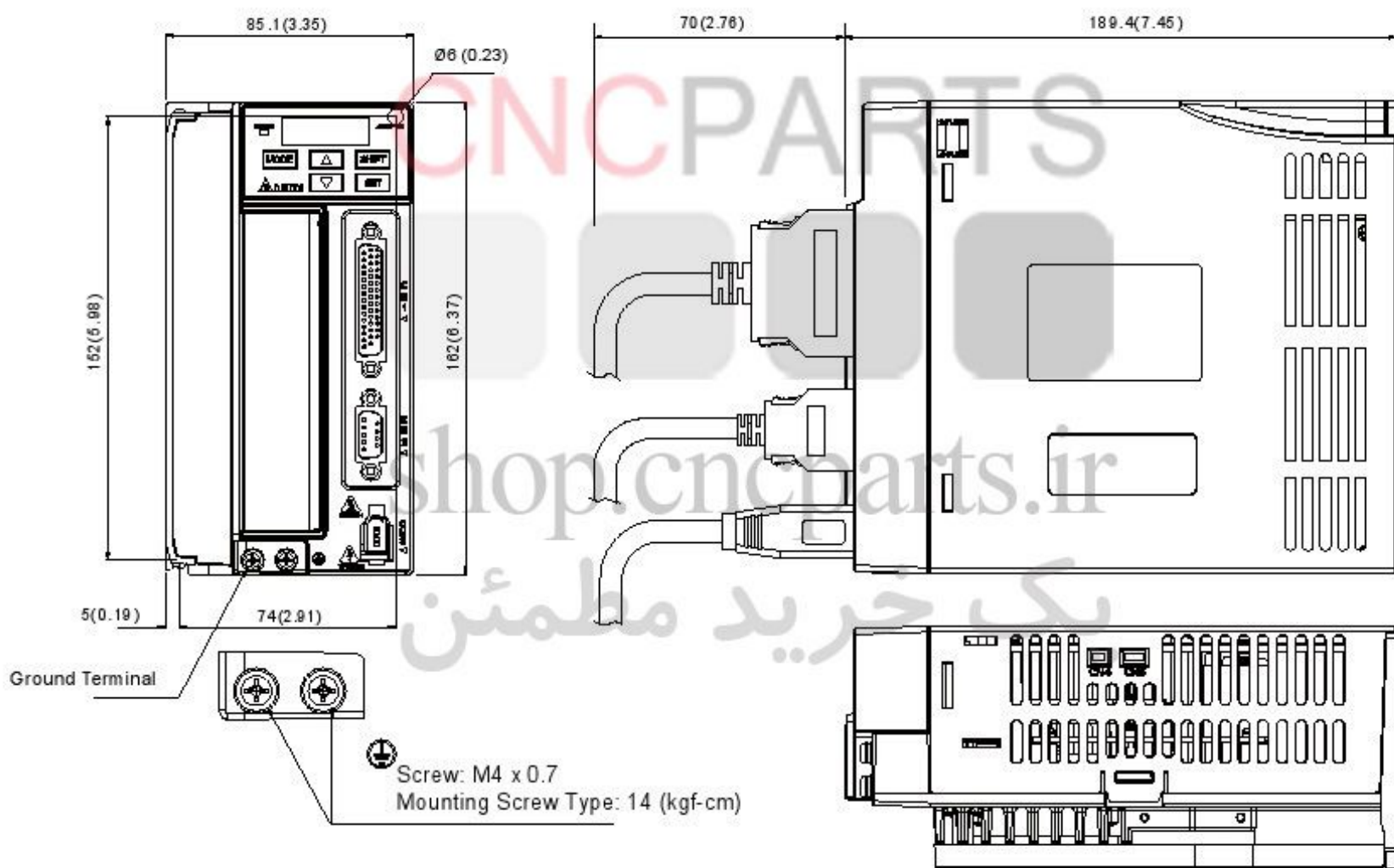
ASD-B2-1021

ASD-B2-1521

(1kW / 1.5kW)

Weight

1.72 (3.79)



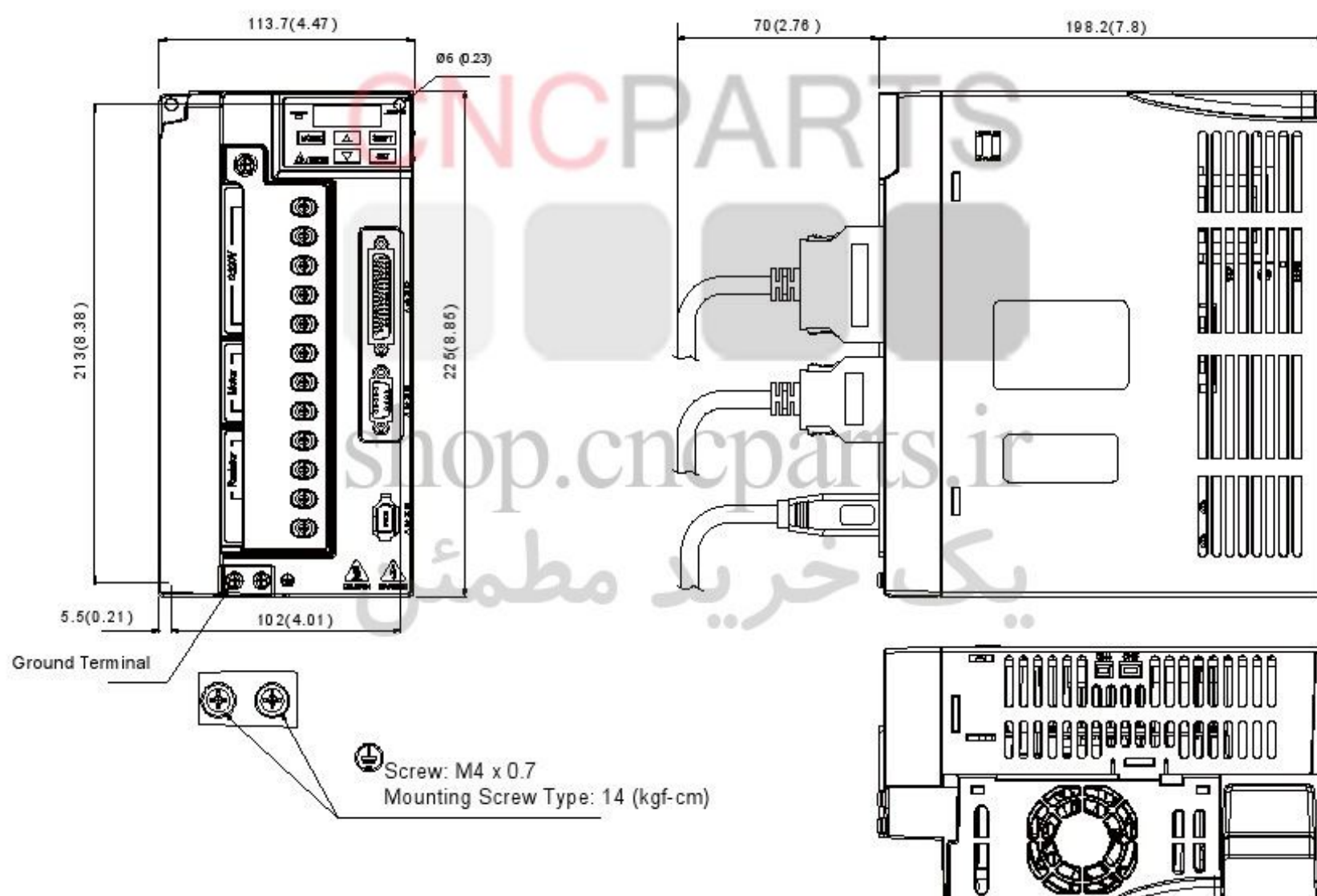
NOTE

- 1) Dimensions are in millimeters (inches); Weights are in kilograms (kg) and pounds (lbs).
- 2) Dimensions and weights of the servo drive may be updated without prior notice.

ASD-B2-2023
ASD-B2-3023
(2kW / 3kW)

Weight

2.67 (5.88)



NOTE

- 1) Dimensions are in millimeters (inches); Weights are in kilograms (kg) and pounds (lbs).
- 2) Dimensions and weights of the servo drive may be updated without prior notice.

Servo Motor Specifications

Low Inertia Series

Models: ECMA Series	CΔ04	CΔ06		CΔ08		CΔ09		CΔ10		CΔ13
	01	02	04-S	04	07	07	10	10	20	30
Rated power (kW)	0.1	0.2	0.4	0.4	0.75	0.75	1.0	1.0	2.0	3.0
Rated torque (N·m) ¹	0.32	0.64	1.27	1.27	2.39	2.39	3.18	3.18	6.37	9.55
Maximum torque (N·m)	0.96	1.92	3.82	3.82	7.16	7.14	8.78	9.54	19.11	28.65
Rated speed (r/min)	3000					3000		3000		3000
Maximum speed (r/min)	5000					3000		5000		4500
Rated current (A)	0.90	1.55	2.6	2.6	5.1	3.66	4.25	7.3	12.05	17.2
Maximum current (A)	2.70	4.65	7.8	7.8	15.3	11	12.37	21.9	36.15	47.5
Power rating (kW/s)	27.7	22.4	57.6	24.0	50.4	29.6	38.6	38.1	90.6	71.8
Rotor inertia (x10 ⁻⁴ kg·m ²) (without brake)	0.037	0.177	0.277	0.68	1.13	1.93	2.62	2.65	4.45	12.7
Mechanical constant (ms)	0.75	0.80	0.53	0.74	0.63	1.72	1.20	0.74	0.61	1.11
Torque constant-KT (N·m/A)	0.36	0.41	0.49	0.49	0.47	0.65	0.75	0.44	0.53	0.557
Voltage constant-KE (mV/(r/min))	13.6	16	17.4	18.5	17.2	24.2	27.5	16.8	19.2	20.98
Armature resistance (Ohm)	9.30	2.79	1.55	0.93	0.42	1.34	0.897	0.20	0.13	0.0976
Armature inductance (mH)	24.0	12.07	6.71	7.39	3.53	7.55	5.7	1.81	1.50	1.21
Electric constant (ms)	2.58	4.3	4.3	7.96	8.36	5.66	6.35	9.3	11.4	12.4
Insulation class	Class A (UL), Class B (CE)									
Insulation resistance	>100 MΩ, 500 V _{DC}									
Insulation strength	1.8k V _{AC} , 1sec									
Weight (kg) (without brake)	0.5	1.2	1.6	2.1	3.0	2.9	3.8	4.3	6.2	7.8
Weight (kg) (with brake)	0.8	1.5	2.0	2.9	3.8	3.69	5.5	4.7	7.2	9.2
Max. radial shaft load (N)	78.4	196	196	245	245	245	245	490	490	490
Max. thrust shaft load (N)	39.2	68	68	98	98	98	98	98	98	98
Power rating (kW/s) (with brake)	25.6	21.3	53.8	22.1	48.4	29.3	37.9	30.4	82	65.1
Rotor inertia (x10 ⁻⁴ kg·m ²) (with brake)	0.04	0.192	0.30	0.73	1.18	1.95	2.67	3.33	4.95	14.0
Mechanical constant (ms) (with brake)	0.81	0.85	0.57	0.78	0.65	1.74	1.22	0.93	0.66	1.22
Brake holding torque [N·m (min)] ²	0.3	1.3	1.3	2.5	2.5	2.5	2.5	8	8	10.0
Brake power consumption (at 20°C) [W]	7.3	6.5	6.5	8.2	8.2	8.2	8.2	18.7	18.7	19.0
Brake release time [ms (Max)]	5	10	10	10	10	10	10	10	10	10
Brake pull-in time [ms (Max)]	25	70	70	70	70	70	70	70	70	70
Vibration grade (μm)	15									
Operating temperature (°C)	0°C to 40°C (32°F to 104°F)									
Storage temperature (°C)	-10°C to 80°C (-14°F to 176°F)									
Operating humidity	20 to 90% RH (non-condensing)									
Storage humidity	20 to 90% RH (non-condensing)									
Vibration capacity	2.5 G									
IP Rating	IP65 (when waterproof connectors are used, or when an oil seal is used to be fitted to the rotating shaft (an oil seal model is used))									
Certifications	CE, RoHS									

Footnote:

* 1 Rated torque values are continuous permissible values at 0~40°C ambient temperature when attaching with the sizes of lead links listed below:

ECMA-__04 / 06 / 08 : 250mm × 250mm × 6mm

ECMA-__10 : 300mm × 300mm × 12mm

ECMA-__13 : 400mm × 400mm × 20mm

ECMA-__18 : 550mm × 550mm × 30mm




ECMA-__22 : 650mm × 650mm × 30mm

Material type : Aluminum F40, F60, F80, F100, F130, F180, F220

* 2 The holding brake is used to hold the motor shaft, not for braking the rotation. Never use it for decelerating or stopping the machine.

Servo Motor Specifications

Medium / High Inertia Series

Model: ECMA Series	EΔ13				EΔ18			GΔ13		
	05	10	15	20	20	30	35	03	06	09
Rated power (kW)	0.5	1.0	1.5	2.0	2.0	3.0	3.5	0.3	0.6	0.9
Rated torque (N·m) ^{*1}	2.39	4.77	7.16	9.55	9.55	14.32	16.71	2.86	5.73	8.59
Maximum torque (N·m)	7.16	14.3	21.48	28.65	28.65	42.97	50.13	8.59	17.19	21.48
Rated speed (r/min)	2000							1000		
Maximum speed (r/min)	3000							2000		
Rated current (A)	2.9	5.6	8.3	11.01	11.22	16.1	19.2	2.5	4.8	7.5
Maximum current (A)	8.7	16.8	24.9	33.03	33.66	48.3	57.6	7.5	14.4	22.5
Power rating (kW/s)	7.0	27.1	46.9	62.5	26.3	37.3	50.8	10.0	39.0	66.0
Rotor inertia (x10 ⁻⁴ kg·m ²)(without brake)	8.17	8.41	11.18	14.59	34.68	54.95	54.95	8.17	8.41	11.18
Mechanical constant (ms)	1.91	1.51	1.10	0.96	1.62	1.06	1.08	1.84	1.40	1.06
Torque constant-KT (N·m/A)	0.83	0.85	0.87	0.87	0.85	0.89	0.87	1.15	1.19	1.15
Voltage constant-KE(mV/(r/min))	30.9	31.9	31.8	31.8	31.4	32.0	32	42.5	43.8	41.6
Armature resistance (Ohm)	0.57	0.47	0.26	0.174	0.119	0.052	0.052	1.06	0.82	0.43
Armature inductance (mH)	7.39	5.99	4.01	2.76	2.84	1.38	1.38	14.29	11.12	6.97
Electric constant (ms)	12.96	12.88	15.31	15.86	23.87	26.39	26.39	13.55	13.50	16.06
Insulation class	Class A (UL), Class B (CE)									
Insulation resistance	>100 MΩ, 500 V _{DC}									
Insulation strength	1.8k V _{AC} , 1sec									
Weight (kg) (without brake)	6.8	7.0	7.5	7.8	13.5	18.5	18.5	6.8	7.0	7.5
Weight (kg) (with brake)	8.2	8.4	8.9	9.2	17.5	22.5	22.5	8.2	8.4	8.9
Max. radial shaft load (N)	490	490	490	490	1176	1470	490	490	490	490
Max. thrust shaft load (N)	98	98	98	98	490	490	98	98	98	98
Power rating (kW/s) (with brake)	6.4	24.9	43.1	57.4	24.1	35.9	48.9	9.2	35.9	62.1
Rotor inertia (x10 ⁻⁴ kg·m ²) (with brake)	8.94	9.14	11.90	15.88	37.86	57.06	57.06	8.94	9.14	11.9
Mechanical constant (ms) (with brake)	2.07	1.64	1.19	1.05	1.77	1.10	1.12	2.0	1.51	1.13
Brake holding torque [N·m (min)] ^{*2}	10.0	10.0	10.0	10.0	25.0	25.0	25.0	10.0	10.0	10.0
Brake power consumption (at 20°C) [W]	19.0	19.0	19.0	19.0	20.4	20.4	20.4	19.0	19.0	19.0
Brake release time [ms (Max)]	10	10	10	10	10	10	10	10	10	10
Brake pull-in time [ms (Max)]	70	70	70	70	70	70	70	70	70	70
Vibration grade (μm)	15									
Operating temperature (°C)	0°C to 40°C (32°F to 104°F)									
Storage temperature (°C)	-10°C to 80°C (-14°F to 176°F)									
Operating humidity	20 to 90% RH (non-condensing)									
Storage humidity	20 to 90% RH (non-condensing)									
Vibration capacity	2.5 G									
IP Rating	IP65 (when waterproof connectors are used, or when an oil seal is used to be fitted to the rotating shaft (an oil seal model is used))									
Certifications	  									

Footnote:

*1 Rated torque values are continuous permissible values at 0~40°C ambient temperature when attaching with the sizes of heat sinks listed below:

ECMA-__04/06/08: 250mm × 250mm × 6mm

ECMA-__10: 300mm × 300mm × 12mm

ECMA-__13: 400mm × 400mm × 20mm

ECMA-__18: 550mm × 550mm × 30mm


ECMA-__22: 650mm × 650mm × 30mm

Material type: Aluminum F40, F60, F80, F100, F130, F180, F220

*2 The holding brake is used to hold the motor shaft, not for braking the rotation. Never use it for decelerating or stopping the machine.

Servo Motor Specifications

Medium high / High Inertia Series

Model: ECMA Series	FA13			FA18
	08	13	18	30
Rated power (kW)	0.85	1.3	1.8	3.0
Rated torque (N-m) ¹	5.41	8.34	11.48	19.10
Maximum torque (N-m)	13.8	23.3	28.7	57.29
Rated speed (r/min)	1500			
Maximum speed (r/min)	3000			
Rated current (A)	7.1	12.6	13	19.4
Maximum current (A)	19.4	38.6	36	58.2
Power rating (kW/s)	21.52	34.78	52.93	66.4
Rotor inertia (x10 ⁻⁴ kg·m ²)(without brake)	13.6	20	24.9	54.95
Mechanical constant (ms)	2.43	1.62	1.7	1.28
Torque constant-KT (N·m/A)	0.76	0.66	0.88	0.98
Voltage constant-KE(mV/(r/min))	29.2	24.2	32.2	35.0
Armature resistance (Ohm)	0.38	0.124	0.185	0.077
Armature inductance (mH)	4.77	1.7	2.6	1.27
Electric constant (ms)	12.55	13.71	14.05	16.5
Insulation class	Class A (UL), Class B (CE)			
Insulation resistance	>100 MΩ, 500 V _{DC}			
Insulation strength	1.8k V _{AC} , 1sec			
Weight (kg) (without brake)	8.6	9.4	10.5	18.5
Weight (kg) (with brake)	10.0	10.8	11.9	22.5
Max. radial shaft load (N)	490	490	490	1470
Max. thrust shaft load (N)	98	98	98	490
Power rating (kW/s) (with brake)	19.78	32.66	50.3	63.9
Rotor inertia (x10 ⁻⁴ kg·m ²) (with brake)	14.8	21.3	26.2	57.06
Mechanical constant (ms) (with brake)	2.65	1.73	1.79	1.33
Brake holding torque [N·m (min)] ²	10.0	10.0	10.0	25.0
Brake power consumption (at 20 °C) [W]	19.0	19.0	19.0	20.4
Brake release time [ms (Max)]	10	10	10	10
Brake pull-in time [ms (Max)]	70	70	70	70
Vibration grade (μm)	15			
Operating temperature (°C)	0 °C ~ 40 °C			
Storage temperature (°C)	-10 °C to 80 °C (-14 °F to 176 °F)			
Operating humidity	20 to 90% RH (non-condensing)			
Storage humidity	20 to 90% RH (non-condensing)			
Vibration capacity	2.5 G			
IP Rating	IP65 (when waterproof connectors are used, or when an oil seal is used to be fitted to the rotating shaft (an oil seal model is used))			
Certifications				

Footnote:

¹ Rated torque values are continuous permissible values at 0 ~ 40 °C ambient temperature when attaching with the sizes of heat sinks listed below:

ECMA-__04 / 06 / 08 : 250mm x 250mm x 6mm

ECMA-__10 : 300mm x 300mm x 12mm

ECMA-__13 : 400mm x 400mm x 20mm

ECMA-__18 : 550mm x 550mm x 30mm

ECMA-__22 : 650mm x 650mm x 35mm

Material type : Aluminium - F40, F60, F80, F100, F130, F180

² The holding brake is used to hold the motor shaft, not for braking the rotation. Never use it for decelerating or stopping the machine.

Servo Motor Specifications

High Inertia Series

Model: ECMA Series	CA06	CA08
	04 □ H	07 □ H
Rated power (kW)	0.4	0.75
Rated torque (N·m) ¹	1.27	2.39
Maximum torque (N·m)	3.82	7.16
Rated speed (r/min)	3000	
Maximum speed (r/min)	5000	
Rated current (A)	2.6	5.1
Maximum current (A)	7.8	15.3
Power rating (kW/s)	21.7	19.63
Rotor inertia (x10 ⁻⁴ kg·m ²)(without brake)	0.743	2.91
Mechanical constant (ms)	1.42	1.6
Torque constant-KT (N·m/A)	0.49	0.47
Voltage constant-KE(mV/(r/min))	17.4	17.2
Armature resistance (Ohm)	1.55	0.42
Armature inductance (mH)	6.71	3.53
Electric constant (ms)	4.3	8.36
Insulation class	Class A (UL), Class B (CE)	
Insulation resistance	>100M Ω, 500 V _{DC}	
Insulation strength	1.8k V _{AC} , 1 sec	
Weight (kg) (without brake)	1.8	3.4
Weight (kg) (with brake)	2.2	3.9
Max. radial shaft load (N)	196	245
Max. thrust shaft load (N)	68	98
Power rating (kW/s) (with brake)	21.48	19.3
Rotor inertia (x10 ⁻⁴ kg·m ²) (with brake)	0.751	2.96
Mechanical constant (ms) (with brake)	1.43	1.62
Brake holding torque [N·m (min)] ²	1.3	2.5
Brake power consumption (at 20 °C) [W]	6.5	8.2
Brake release time [ms (Max)]	10	10
Brake pull-in time [ms (Max)]	70	70
Vibration grade (μm)	15	
Operating temperature (°C)	0 °C ~ 40 °C	
Storage temperature (°C)	-10 °C to 80 °C (-14 °F to 176 °F)	
Operating humidity	20 to 90% RH (non-condensing)	
Storage humidity	20 to 90% RH (non-condensing)	
Vibration capacity	2.5 G	
IP Rating	IP 65 (when waterproof connectors are used, or when an oil seal is used to be fitted to the rotating shaft (an oil seal model is used))	
Certifications	  	

Footnote:

¹ Rated torque values are continuous permissible values at 0 ~ 40 °C ambient temperature when attaching with the sizes of heat sinks listed below:

ECMA-__04/06/08: 250mm x 250mm x 6mm

ECMA-__10: 300mm x 300mm x 12mm

ECMA-__13: 400mm x 400mm x 20mm

ECMA-__18: 550mm x 550mm x 30mm

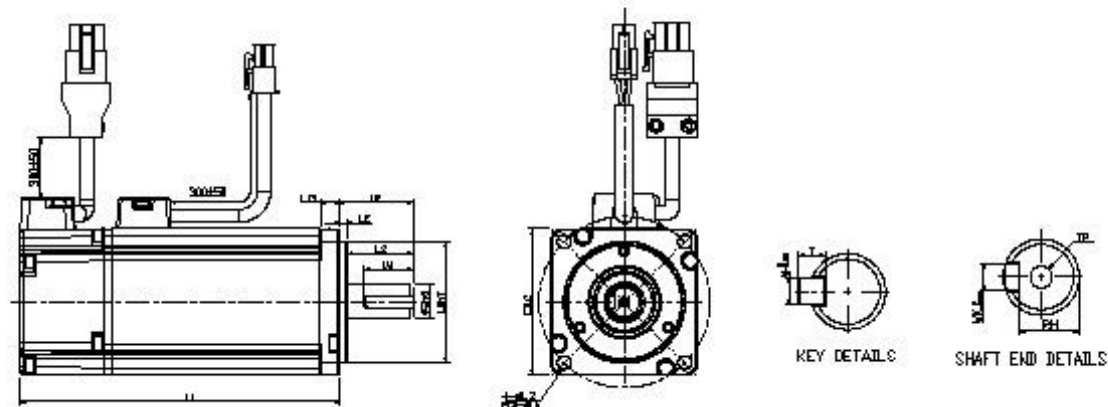
ECMA-__22: 650mm x 650mm x 35mm

Material type: Aluminum - F40, F60, F80, F100, F130, F180

² The holding brake is used to hold the motor shaft, not for braking the rotation. Never use it for decelerating or stopping the machine.

Servo Motor Dimensions

Motors - Frame Size 86mm and below



Units: mm

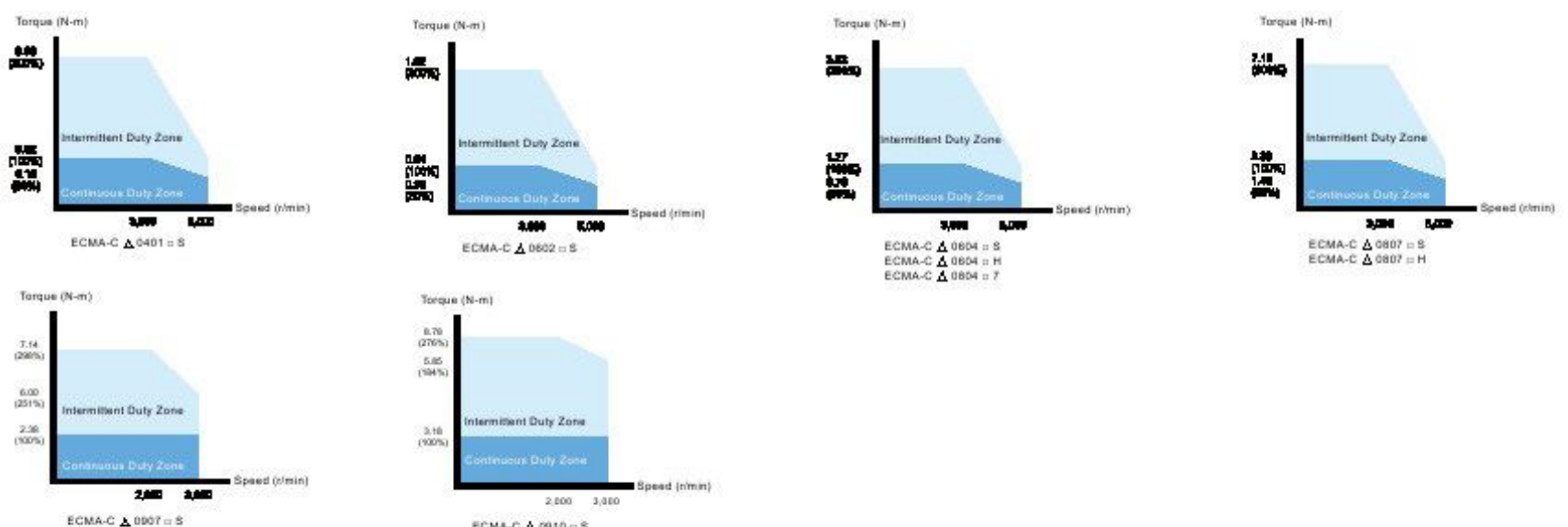
Model	C Δ 0401 \square S	C Δ 0602 \square S	C Δ 0604 \square S	C Δ 0604 \square H	C Δ 0804 \square 7	C Δ 0807 \square S	C Δ 0807 \square H	C Δ 0907 \square S	C Δ 0910 \square S
LC	40	60	60	60	80	80	80	86	86
LZ	4.5	5.5	5.5	5.5	6.6	6.6	6.6	6.6	6.6
LA	46	70	70	70	90	90	90	100	100
S	8 ($+0$ -0.009)	14 ($+0$ -0.011)	14 ($+0$ -0.011)	14 ($+0$ -0.011)	14 ($+0$ -0.011)	19 ($+0$ -0.013)	19 ($+0$ -0.013)	16 ($+0$ -0.011)	16 ($+0$ -0.011)
LB	30 ($+0$ -0.021)	50 ($+0$ -0.025)	50 ($+0$ -0.025)	50 ($+0$ -0.025)	70 ($+0$ -0.030)	70 ($+0$ -0.030)	70 ($+0$ -0.030)	80 ($+0$ -0.030)	80 ($+0$ -0.030)
LL (without brake)	100.6	105.5	130.7	145.8	112.3	138.3	154.8	130.2	153.2
LL (with brake)	136.8	141.6	166.8	176.37	152.8	178	187.8	161.3	184.3
LS	20	27	27	27	27	32	32	30	30
LR	25	30	30	30	30	35	35	35	35
LE	2.5	3	3	3	3	3	3	3	3
LG	5	7.5	7.5	7.5	8	8	8	8	8
LW	16	20	20	20	20	25	25	20	20
RH	6.2	11	11	11	11	15.5	15.5	13	13
WK	3	5	5	5	5	6	6	5	5
W	3	5	5	5	5	6	6	5	5
T	3	5	5	5	5	6	6	5	5
TP	M3 Depth 8	M4 Depth 15	M4 Depth 15	M4 Depth 15	M4 Depth 15	M6 Depth 20	M6 Depth 20	M5 Depth 15	M5 Depth 15



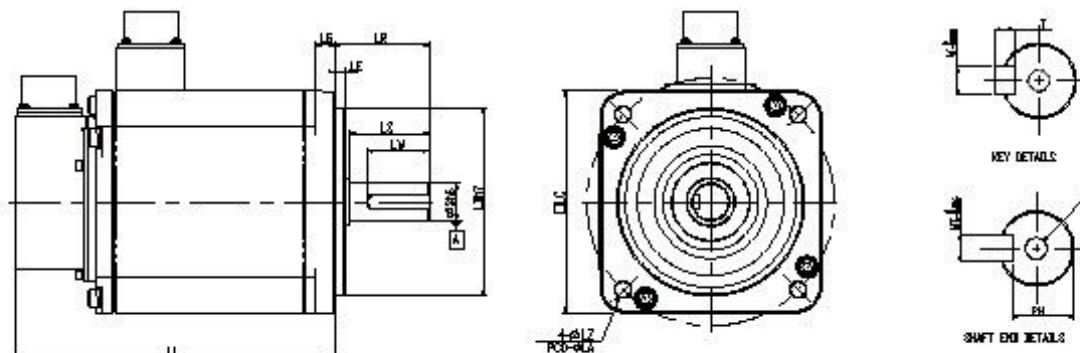
NOTE

- 1) Dimensions are in millimeters. Actual measured values are in metric units.
- 2) Dimensions of the servo motor may be updated without prior notice.
- 3) The boxes (\square) in the model names represent shaft end/brake or the number of oil seal.
- 4) The boxes (Δ) in the model names represent encoder types ($\Delta=1$: Incremental encoder, 20-bit; $\Delta=2$: Incremental encoder, 17-bit).

Speed-Torque Curves (T-N Curves)



Motors - Frame Size 100mm ~ 130mm



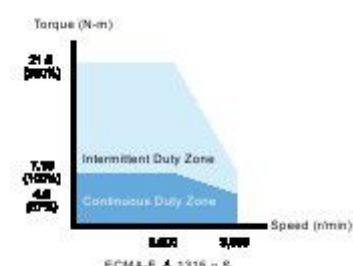
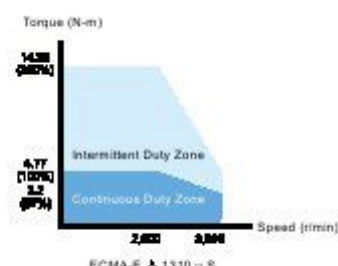
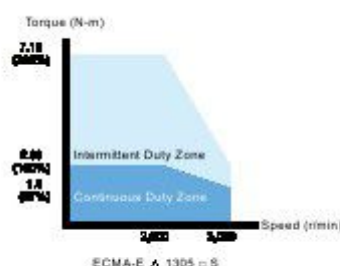
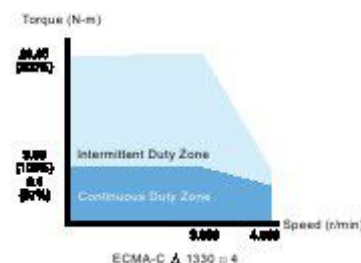
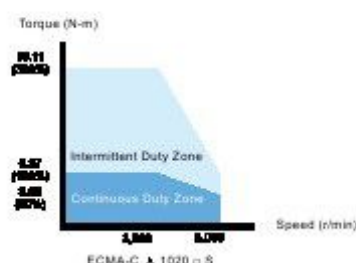
Units: mm

Model	C Δ 1010 \square S	C Δ 1020 \square S	C Δ 1330 \square 4	E Δ 1305 \square S	E Δ 1310 \square S	E Δ 1315 \square S
LC	100	100	130	130	130	130
LZ	9	9	9	9	9	9
LA	115	115	145	145	145	145
S	22 (+0/-0.013)	22 (+0/-0.013)	24 (+0/-0.013)	22 (+0/-0.013)	22 (+0/-0.013)	22 (+0/-0.013)
LB	95 (+0/-0.035)	95 (+0/-0.035)	110 (+0/-0.035)	110 (+0/-0.035)	110 (+0/-0.035)	110 (+0/-0.035)
LL (不带刹车)	153.3	199	187.5	147.5	147.5	167.5
LL (带刹车)	192.5	226	216	183.5	183.5	202
LS	37	37	47	47	47	47
LR	45	45	55	55	55	55
LE	5	5	6	6	6	6
LG	12	12	11.5	11.5	11.5	11.5
LW	32	32	36	36	36	36
RH	18	18	20	18	18	18
WK	8	8	8	8	8	8
W	8	8	8	8	8	8
T	7	7	7	7	7	7
TP	M6 Depth 20	M6 Depth 20	M6 Depth 20	M6 Depth 20	M6 Depth 20	M6 Depth 20

**NOTE**

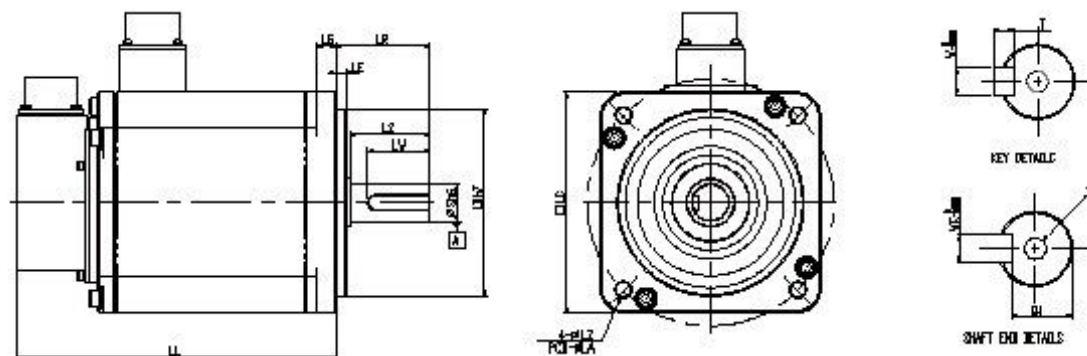
- 1) Dimensions are in millimeters. Actual measured values are in metric units.
- 2) Dimensions of the servo motor may be updated without prior notice.
- 3) The boxes (\square) in the model names represent shaft end/brake or the number of oil seal.
- 4) The boxes (Δ) in the model names represent encoder types (Δ =1: Incremental encoder, 20-bit; Δ =2: Incremental encoder, 17-bit).

Speed-Torque Curves (T-N Curves)



Servo Motor Dimensions

Motors - Frame Size 100mm ~ 130mm



Units: mm

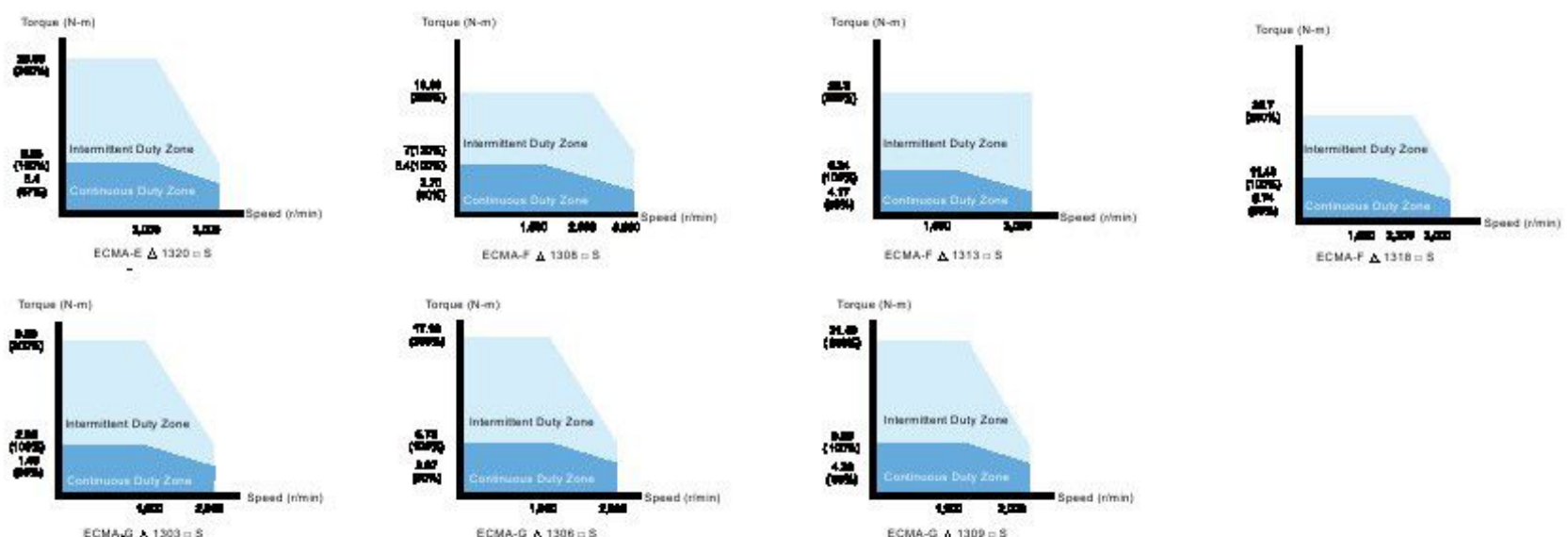
Model	E Δ 1320 \square S	F Δ 1308 \square S	F Δ 1313 \square S	F Δ 1318 \square S	G Δ 1303 \square S	G Δ 1306 \square S	G Δ 1309 \square S
LC	130	130	130	130	130	130	130
LZ	9	9	9	9	9	9	9
LA	145	145	145	145	145	145	145
S	22 (+0/-0.013)	22 (+0/-0.013)	22 (+0/-0.013)	22 (+0/-0.013)	22 (+0/-0.013)	22 (+0/-0.013)	22 (+0/-0.013)
LB	110 (+0/-0.035)	110 (+0/-0.035)	110 (+0/-0.035)	110 (+0/-0.035)	110 (+0/-0.035)	110 (+0/-0.035)	110 (+0/-0.035)
LL (without brake)	187.5	152.5	187.5	202	147.5	147.5	163.5
LL (with brake)	216	181	216	230.7	183.5	183.5	198
LS	47	47	47	47	47	47	47
LR	55	55	55	55	55	55	55
LE	6	6	6	6	6	6	6
LG	11.5	11.5	11.5	11.5	11.5	11.5	11.5
LW	36	36	36	36	36	36	36
RH	18	18	18	18	18	18	18
WK	8	8	8	8	8	8	8
W	8	8	8	8	8	8	8
T	7	7	7	7	7	7	7
TP	M6 Depth 20	M6 Depth 20	M6 Depth 20	M6 Depth 20	M6 Depth 20	M6 Depth 20	M6 Depth 20



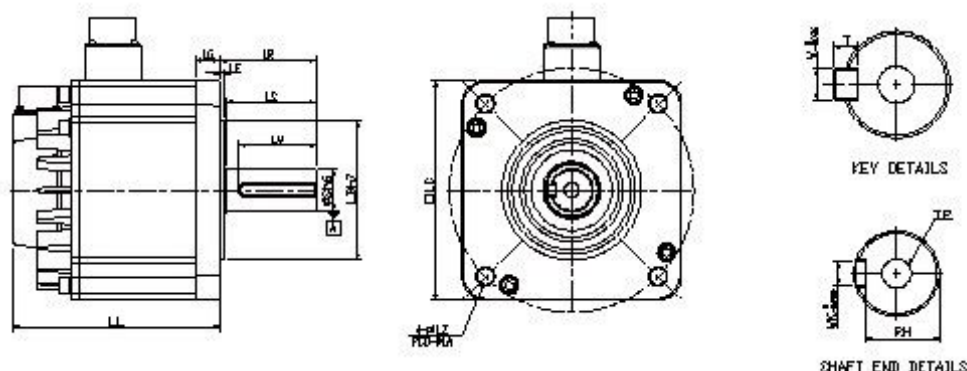
NOTE

- 1) Dimensions are in millimeters. Actual measured values are in metric units.
- 2) Dimensions of the servo motor may be updated without prior notice.
- 3) The boxes (\square) in the model names represent shaft end/brake or the number of oil seal.
- 4) The boxes (Δ) in the model names represent encoder types ($\Delta=1$: Incremental encoder, 20-bit; $\Delta=2$: Incremental encoder, 17-bit).

Speed-Torque Curves (T-N Curves)



Motors - Frame Size 180mm



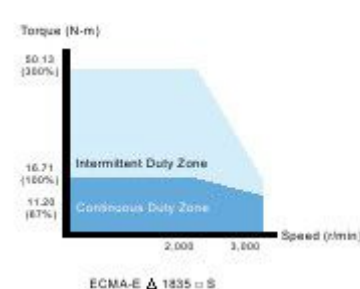
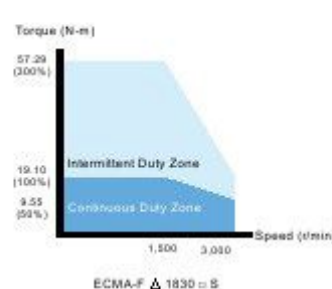
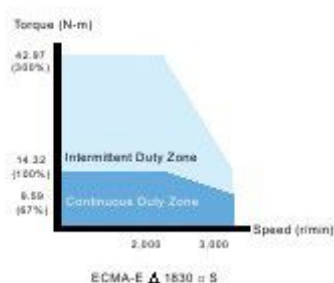
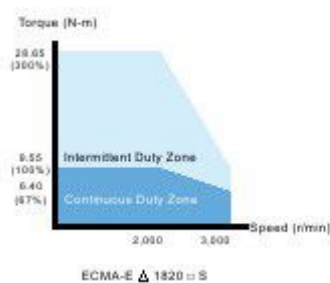
Units: mm

Model	E Δ 1820 \square S	E Δ 1830 \square S	F Δ 1830 \square S	E Δ 1835 \square S
LC	180	180	180	180
LZ	13.5	13.5	13.5	13.5
LA	200	200	200	200
S	35 (+0/-0.016)	35 (+0/-0.016)	35 (+0/-0.016)	35 (+0/-0.016)
LB	114.3 (+0/-0.035)	114.3 (+0/-0.035)	114.3 (+0/-0.035)	114.3 (+0/-0.035)
LL (without brake)	169	202.1	202.1	202.1
LL (with brake)	203.1	235.3	235.3	235.3
LS	73	73	73	73
LR	79	79	79	79
LE	4	4	4	4
LG	20	20	20	20
LW	63	63	63	63
RH	30	30	30	30
WK	10	10	10	10
W	10	10	10	10
T	8	8	8	8
TP	M12 Depth 25	M12 Depth 25	M12 Depth 25	M12 Depth 25



- 1) Dimensions are in millimeters. Actual measured values are in metric units.
- 2) Dimensions of the servo motor may be updated without prior notice.
- 3) The boxes (\square) in the model names represent shaft end/brake or the number of oil seal.
- 4) The boxes (Δ) in the model names represent encoder types ($\Delta=1$: Incremental encoder, 20-bit; $\Delta=2$: Incremental encoder, 17-bit).

Speed-Torque Curves (T-N Curves)



Optional Accessories

Power Cables

- 3m and 5m standard cables are available.
- Individual connectors are also provided for different demands.
- Two types are selectable: with brake and without brake.



CN1 I/O Connectors

- Used to connect to external (host) controller
- Delta Part Number: ASDBCNDS0044



CN1 Convenient Connector

- Delta Part Number: ASD-IF-DS4444



Encoder Cables

- 3m and 5m standard cables are available.
- Individual connectors are also provided for different demands.





Regenerative Resistors

- Two kinds of regenerative resistors are available, 400W / 40Ω and 1kW / 20Ω.



Terminal Block Modules

- 0.5m connection cable is provided for saving on installation space.
- Delta Part Number: ASD-MDDS4444



RS-485 Connectors

- Used to connect multiple ASDA Series products by RS-485 interface through Modbus serial communication.
- Delta Part Number: ASD-CNIE0B06



ASD-Soft Software Communication Cables (for PC)

- Delta Part Number: ASD-CNUS0A08

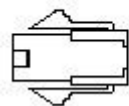


The figures are for illustration purposes only. Actual models may differ slightly in appearance from illustrations provided.

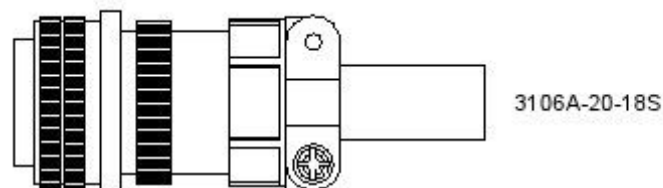
Optional Accessories

Power Connectors

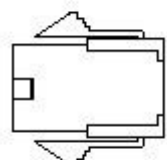
ASDBCAPW0000



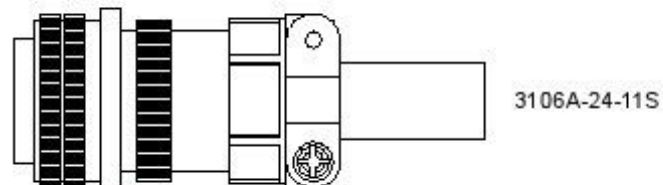
ASD-CAPW1000



ASDBCAPW0100



ASD-CAPW2000



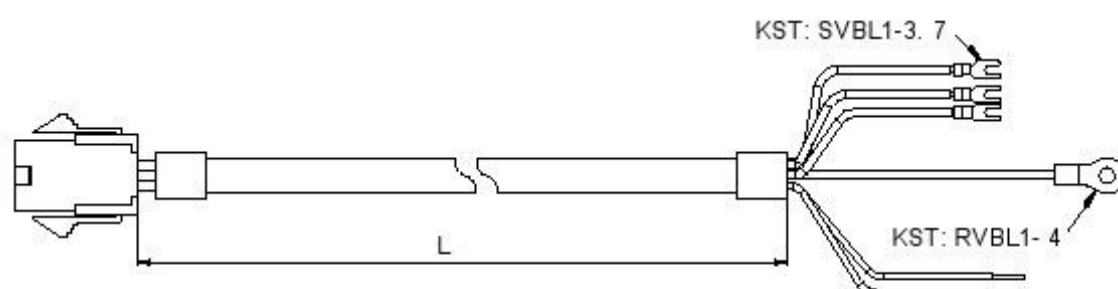
Power Cables

ASDBCAPW0203/0205



Item	Part No.	L	
		mm	inch
1	ASDBCAPW0203	3000 ± 50	118 ± 2
2	ASDBCAPW0205	5000 ± 50	197 ± 2

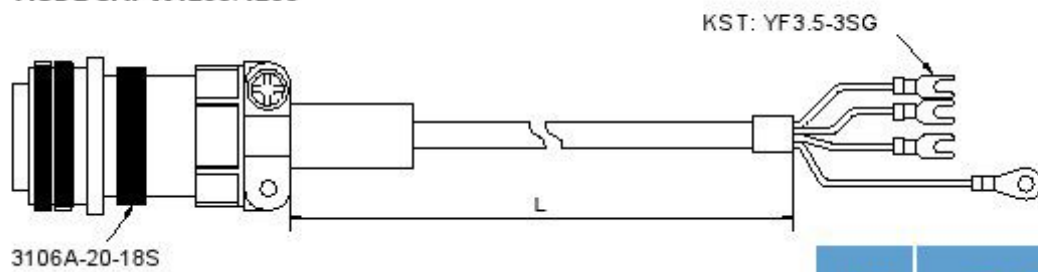
ASDBCAPW0303/0305



Item	Part No.	L	
		mm	inch
1	ASDBCAPW0303	3000 ± 50	118 ± 2
2	ASDBCAPW0305	5000 ± 50	197 ± 2

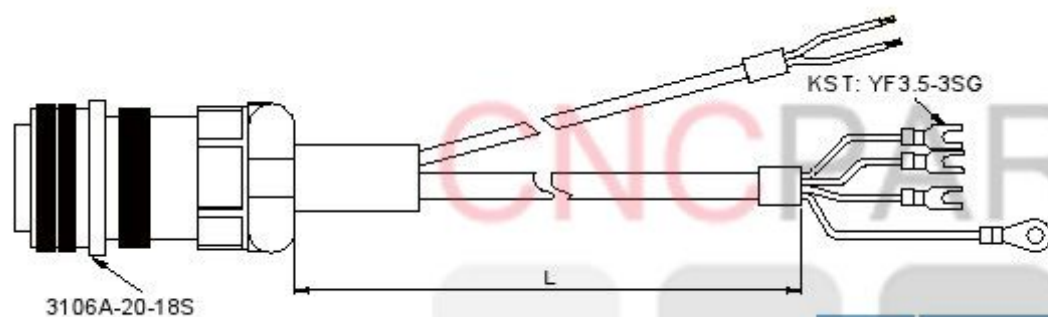
Power Cables

ASDBCAPW1203/1205



Item	Part No.	Straight	L	
			mm	inch
1	ASDBCAPW1203	3106A-20-18S	3000 ± 50	118 ± 2
2	ASDBCAPW1205	3106A-20-18S	5000 ± 50	197 ± 2

ASDBCAPW1303/1305



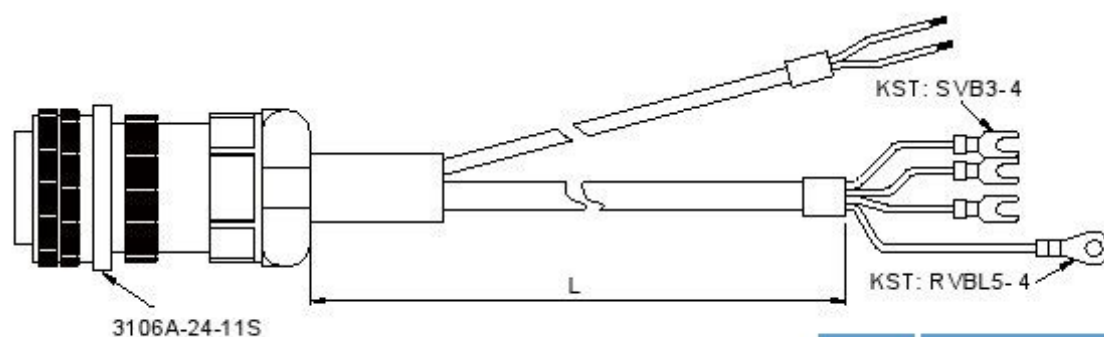
Item	Part No.	Straight	L	
			mm	inch
1	ASDBCAPW1303	3106A-20-18S	3000 ± 50	118 ± 2
2	ASDBCAPW1305	3106A-20-18S	5000 ± 50	197 ± 2

ASD-CAPW2203/2205



Item	Part No.	Straight	L	
			mm	inch
1	ASD-CAPW2203	3106A-24-11S	3000 ± 50	118 ± 2
2	ASD-CAPW2205	3106A-24-11S	5000 ± 50	197 ± 2

ASD-CAPW2303/2305



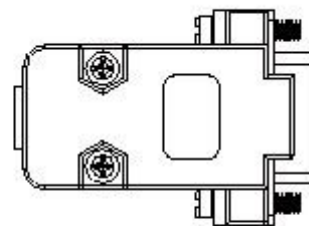
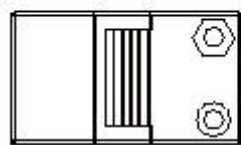
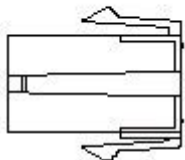
Item	Part No.	Straight	L	
			mm	inch
1	ASD-CAPW2303	3106A-24-11S	3000 ± 50	118 ± 2
2	ASD-CAPW2305	3106A-24-11S	5000 ± 50	197 ± 2

Optional Accessories

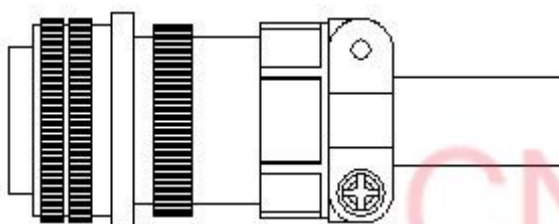
Encoder Connectors

ASDBCAEN0000

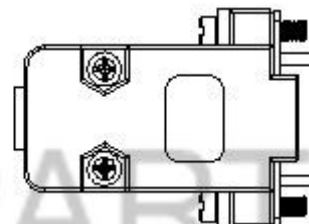
D-SUB Connector 9P



ASDBCAEN1000



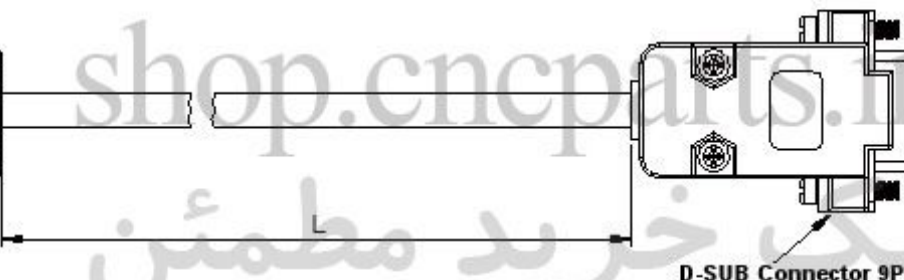
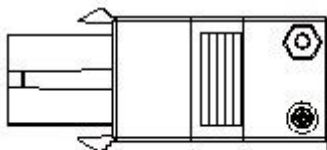
3106A-20-29S



D-SUB Connector 9P

Encoder Cables

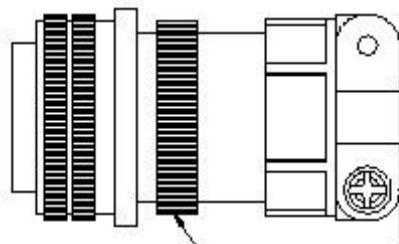
ASDBCAEN0003/0005



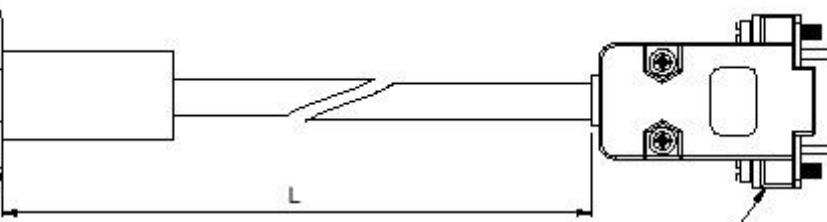
D-SUB Connector 9P

Item	Part No.	L	
		mm	inch
1	ASDBCAEN0003	3000 ± 50	118 ± 2
2	ASDBCAEN0005	5000 ± 50	197 ± 2

ASDBCAEN1003/1005



3106A-20-29S

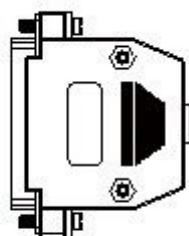


D-SUB Connector 9P

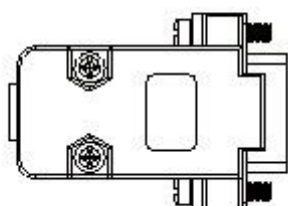
Item	Part No.	Straight	L	
			mm	inch
1	ASDBCAEN1003	3106A-20-29S	3000 ± 50	118 ± 2
2	ASDBCAEN1005	3106A-20-29S	5000 ± 50	197 ± 2

I/O Signal Connector

ASD-BCNDS0044
D-SUB 44 PIN PLUG



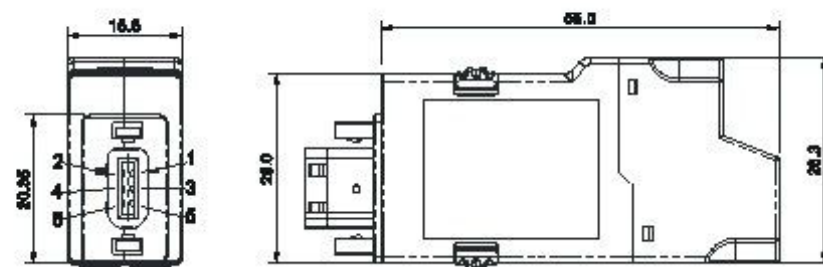
ASDBCAEN1000
D-SUB 15 PIN PLUG



RS-485 Connector

Dimensions are in mm

ASD-CNIE0B06



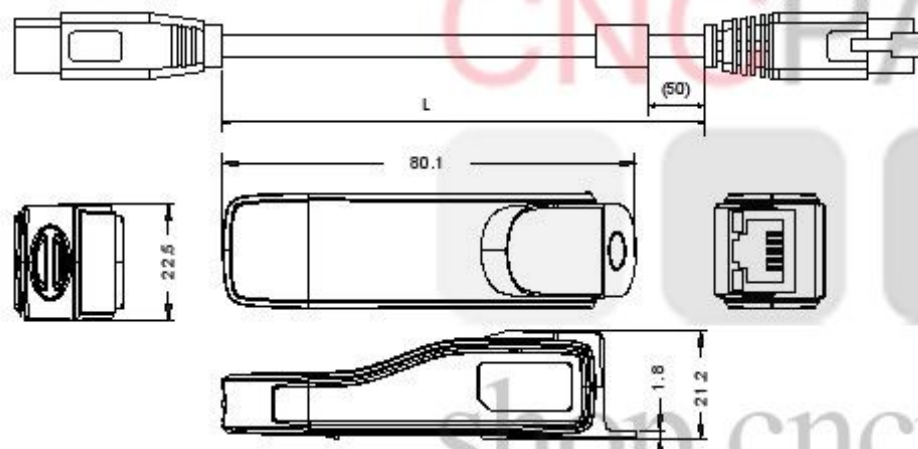
NOTE

- 1) More accessories for ASDA-B2 will be on the list.
- 2) Accessories images shown here may differ from the actual product.

Communication Cable between Drive and Computer (for PC)

Dimensions are in mm

ASD-CNUS0A08

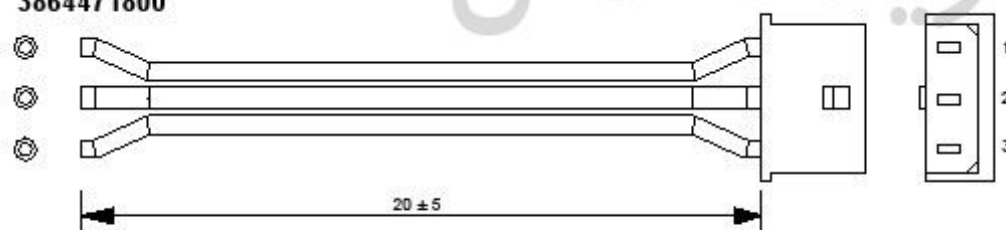


Title	Part No.	Part No. : ASD-CNUS0A08
Cable	L	3000 ± 100 mm
		118 ± 4 inch
Connector	RJ connector	RJ-45
	USB connector	A-type (USB V2.0)

Voltage Output Cable (Analog Signal)

Dimensions are in mm

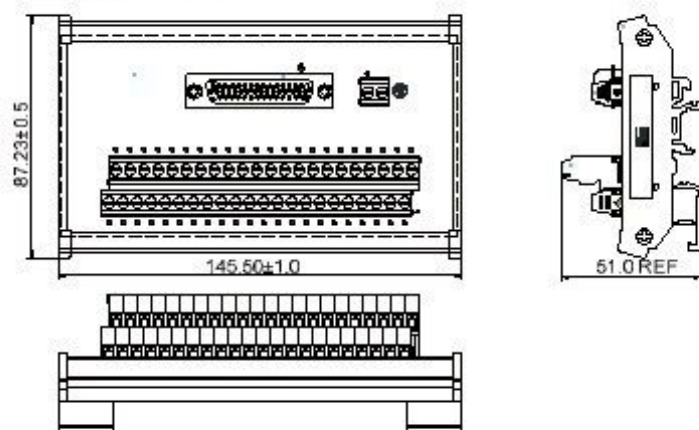
3864471800



Terminal Block Module

Dimensions are in mm

ASD-MDDS4444



Accessories Combinations

100W Servo Drive and 100W Low Inertia Servo Motor

Servo Drive	ASD-B2-0121-B
Low Inertia Servo Motor	ECMA-C Δ 0401 \square S
Power Cables (Without Brake)	ASDBCAPW020X
Power Connectors (Without Brake)	ASDBCAPW0000
Power Cables (With Brake)	ASDBCAPW030X
Power Connectors (With Brake)	ASDBCAPW0100
Encoder Cables	ASDBCAEN000X
Encoder Connectors	ASDBCAEN0000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

200W Servo Drive and 200W Low Inertia Servo Motor

Servo Drive	ASD-B2-0221-B
Low Inertia Servo Motor	ECMA-C Δ 0602 \square S
Power Cables (Without Brake)	ASDBCAPW020X
Power Connectors (Without Brake)	ASDBCAPW0000
Power Cables (With Brake)	ASDBCAPW030X
Power Connectors (With Brake)	ASDBCAPW0100
Encoder Cables	ASDBCAEN000X
Encoder Connectors	ASDBCAEN0000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

400W Servo Drive and 400W Low Inertia Servo Motor

Servo Drive	ASD-B2-0421-B
Low Inertia Servo Motor	ECMA-C Δ 0604 \square S ECMA-C Δ 0804 \square 7 ECMA-CM0604PS
Power Cables (Without Brake)	ASDBCAPW020X
Power Connectors (Without Brake)	ASDBCAPW0000
Power Cables (With Brake)	ASDBCAPW030X
Power Connectors (With Brake)	ASDBCAPW0100
Encoder Cables	ASDBCAEN000X
Encoder Connectors	ASDBCAEN0000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

400W Servo Drive and 400W High Inertia Servo Motor

Servo Drive	ASD-B2-0421-B
High Inertia Servo Motor	ECMA-C Δ 0604 \square H
Power Cables (Without Brake)	ASDBCAPW020X
Power Connectors (Without Brake)	ASDBCAPW0000
Power Cables (With Brake)	ASDBCAPW030X
Power Connectors (With Brake)	ASDBCAPW0100
Encoder Cables	ASDBCAEN000X
Encoder Connectors	ASDBCAEN0000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

400W Servo Drive and 500W Medium Inertia Servo Motor

Servo Drive	ASD-B2-0421-B
Medium Inertia Servo Motor	ECMA-E Δ 1305 \square S
Power Cables (Without Brake)	ASDBCAPW120X
Power Cables (With Brake)	ASDBCAPW130X
Power Connectors	ASD-CAPW1000
Incremental Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

400W Servo Drive and 300W High Inertia Servo Motor

Servo Drive	ASD-B2-0421-B
High Inertia Servo Motor	ECMA-G Δ 1303 \square S
Power Cables (Without Brake)	ASDBCAPW120X
Power Cables (With Brake)	ASDBCAPW130X
Power Connectors	ASD-CAPW1000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

750W Servo Drive and 600W High Inertia Servo Motor

Servo Drive	ASD-B2-0721-B
High Inertia Servo Motor	ECMA-G Δ 1306 \square S ECMA-GM1306PS
Power Cables (Without Brake)	ASDBCAPW120X
Power Cables (With Brake)	ASDBCAPW130X
Power Connectors	ASD-CAPW1000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

750W Servo Drive and 750W Low Inertia Servo Motor

Servo Drive	ASD-B2-0721-B
Low Inertia Servo Motor	ECMA-C Δ 0807 \square S ECMA-C Δ 0907 \square 7 ECMA-CM0807PS
Power Cables (Without Brake)	ASDBCAPW020X
Power Connectors (Without Brake)	ASDBCAPW0000
Power Cables (With Brake)	ASDBCAPW030X
Power Connectors (With Brake)	ASDBCAPW0100
Encoder Cables	ASDBCAEN000X
Encoder Connectors	ASDBCAEN0000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

Accessories Combinations

750W Servo Drive and 750W High Inertia Servo Motor

Servo Drive	ASD-B2-0721-B
High Inertia Servo Motor	ECMA-C Δ 0807 \square H
Power Cables (Without Brake)	ASDBCAPW020X
Power Connectors (Without Brake)	ASDBCAPW0000
Power Cables (With Brake)	ASDBCAPW030X
Power Connectors (With Brake)	ASDBCAPW0100
Encoder Cables	ASDBCAEN000X
Encoder Connectors	ASDBCAEN0000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

1kW Servo Drive and 850W Low Inertia Servo Motor

Servo Drive	ASD-B2-1021-B
Low Inertia Servo Motor	ECMA-F Δ 1308 \square S
Power Cables (Without Brake)	ASDBCAPW120X
Power Cables (With Brake)	ASDBCAPW130X
Power Connectors	ASD-CAPW1000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

1kW Servo Drive and 1kW Low Inertia Servo Motor

Servo Drive	ASD-B2-1021-B
Low Inertia Servo Motor	ECMA-C Δ 1010 \square S
Power Cables (Without Brake)	ASDBCAPW120X
Power Cables (With Brake)	ASDBCAPW130X
Power Connectors	ASD-CAPW1000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

1kW Servo Drive and 1kW Low Inertia Servo Motor

Servo Drive	ASD-B2-1021-B
Low Inertia Servo Motor	ECMA-C Δ 0910 \square S
Power Cables (Without Brake)	ASDBCAPW020X
Power Connectors (Without Brake)	ASDBCAPW0000
Power Cables (With Brake)	ASDBCAPW030X
Power Connectors (With Brake)	ASDBCAPW0100
Incremental Encoder Cables	ASDBCAEN000X
Encoder Connectors	ASDBCAEN0000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

1kW Servo Drive and 1kW Medium Inertia Servo Motor

Servo Drive	ASD-B2-1021-B
Medium Inertia Servo Motor	ECMA-E Δ 1310 \square S
Power Cables (Without Brake)	ASDBCAPW120X
Power Cables (With Brake)	ASDBCAPW130X
Power Connectors	ASD-CAPW1000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

1kW Servo Drive and 900W High Inertia Servo Motor

Servo Drive	ASD-B2-1021-B
High Inertia Servo Motor	ECMA-G Δ 1309 \square S ECMA-GM1309PS
Power Cables (Without Brake)	ASDBCAPW120X
Power Cables (With Brake)	ASDBCAPW130X
Power Connectors	ASD-CAPW1000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

1.5kW Servo Drive and 1.5kW Medium Inertia Servo Motor

Servo Drive	ASD-B2-1521-B
Medium Inertia Servo Motor	ECMA-E Δ 1315 \square S
Power Cables (Without Brake)	ASDBCAPW120X
Power Cables (With Brake)	ASDBCAPW130X
Power Connectors	ASD-CAPW1000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

2kW Servo Drive and 2kW Low Inertia Servo Motor

Servo Drive	ASD-B2-2023-B
Low Inertia Servo Motor	ECMA-C Δ 1020 \square S
Power Cables (Without Brake)	ASDBCAPW120X
Power Cables (With Brake)	ASDBCAPW130X
Power Connectors	ASDBCAPW1000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

Accessories Combinations

2kW Servo Drive and 2kW Medium Inertia Servo Motor

Servo Drive	ASD-B2-2023-B
Medium Inertia Servo Motor	ECMA-E \triangle 1320 \square S
Power Cables (Without Brake)	ASDBCAPW120X
Power Cables (With Brake)	ASDBCAPW130X
Power Connectors	ASD-CAPW1000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

2kW Servo Drive and 2kW Medium Inertia Servo Motor

Servo Drive	ASD-B2-2023-B
Medium Inertia Servo Motor	ECMA-E \triangle 1820 \square S
Power Cables (Without Brake)	ASD-CAPW220X
Power Cables (With Brake)	ASD-CAPW230X
Power Connectors	ASD-CAPW2000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

2kW Servo Drive and 1.3kW Medium High Inertia Servo Motor

Servo Drive	ASD-B2-2023-B
Medium High Inertia Servo Motor	ECMA-F11313 \square S
Power Cables (Without Brake)	ASDBCAPW120X
Power Cables (With Brake)	ASDBCAPW130X
Power Connectors	ASD-CAPW1000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

2kW Servo Drive and 1.8kW Medium High Inertia Servo Motor

Servo Drive	ASD-B2-2023-B
Medium High Inertia Servo Motor	ECMA-F11318 \square S
Power Cables (Without Brake)	ASDBCAPW120X
Power Cables (With Brake)	ASDBCAPW130X
Power Connectors	ASD-CAPW1000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

3kW Servo Drive and 3kW Low Inertia Servo Motor

Servo Drive	ASD-B2-3023-B
Low Inertia Servo Motor	ECMA-C Δ 1330 \square 4
Power Cables (Without Brake)	ASDBCAPW120X
Power Cables (With Brake)	ASDBCAPW130X
Power Connectors	ASD-CAPW1000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

3kW Servo Drive and 3kW Medium Inertia Servo Motor

Servo Drive	ASD-B2-3023-B
Medium Inertia Servo Motor	ECMA-E Δ 1830 \square S
Power Cables (Without Brake)	ASD-CAPW220X
Power Cables (With Brake)	ASD-CAPW230X
Power Connectors	ASD-CAPW2000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

3kW Servo Drive and 3.5kW Medium Inertia Servo Motor

Servo Drive	ASD-B2-3023-B
Medium Inertia Servo Motor	ECMA-E Δ 1835 \square S
Power Cables (Without Brake)	ASD-CAPW220X
Power Cables (With Brake)	ASD-CAPW230X
Power Connectors	ASD-CAPW2000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

3kW Servo Drive and 3kW Medium High Inertia Servo Motor

Servo Drive	ASD-B2-3023-B
Medium High Inertia Servo Motor	ECMA-F Δ 1830 \square S
Power Cables (Without Brake)	ASD-CAPW220X
Power Cables (With Brake)	ASD-CAPW230X
Power Connectors	ASD-CAPW2000
Encoder Cables	ASDBCAEN100X
Encoder Connectors	ASDBCAEN1000

(X=3 indicates that the cable length is 3m; X=5 indicates that the cable length is 5m)

Other Accessories (for ASDA-B2 Series all models)

Description	Delta Part Number
Communication Cable between Servo Drive and Computer	ASD-CARS0003
Regenerative Resistor 400W 100 Ω	BR400W040
Regenerative Resistor 1kW 1000 Ω	BR1K0W020



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Industrial Automation Headquarters

Delta Electronics, Inc.

Taoyuan Technology Center
No.18, Xinglong Rd., Taoyuan Dist.
Taoyuan City 33068, Taiwan
TEL: 886-3-362-6301 / FAX: 886-3-371-6301

Asia

Delta Electronics (Jiangsu) Ltd.

Wujiang Plant 3
1688 Jiangxing East Road,
Wujiang Economic Development Zone
Wujiang City, Jiang Su Province,
People's Republic of China (Post code: 215200)
TEL: 86-512-6340-3008 / FAX: 86-769-6340-7290

Delta Greentech (China) Co., Ltd.

238 Min-Xia Road, Pudong District,
ShangHai, P.R.C.
Post code : 201209
TEL: 86-21-58635678 / FAX: 86-21-58630003

Delta Electronics (Japan), Inc.

Tokyo Office
2-1-14 Minato-ku Shibadaimon,
Tokyo 105-0012, Japan
TEL: 81-3-5733-1111 / FAX: 81-3-5733-1211

Delta Electronics (Korea), Inc.

1511, Byucksan Digital Valley 6-cha, Gasan-dong,
Geumcheon-gu, Seoul, Korea, 153-704
TEL: 82-2-515-5303 / FAX: 82-2-515-5302

Delta Electronics Int'l (S) Pte Ltd

4 Kaki Bukit Ave 1, #05-05, Singapore 417939
TEL: 65-6747-5155 / FAX: 65-6744-9228

Delta Electronics (India) Pvt. Ltd.

Plot No 43 Sector 35, HSIIDC
Gurgaon, PIN 122001, Haryana, India
TEL : 91-124-4874900 / FAX : 91-124-4874945

Americas

Delta Products Corporation (USA)

Raleigh Office
P.O. Box 12173, 5101 Davis Drive,
Research Triangle Park, NC 27709, U.S.A.
TEL: 1-919-767-3800 / FAX: 1-919-767-8080

Delta Greentech (Brasil) S.A

Sao Paulo Office
Rua Itapeva, 26 - 3º andar Edificio Itapeva One-Bela Vista
01332-000-São Paulo-SP-Brazil
TEL: +55 11 3568-3855 / FAX: +55 11 3568-3865

Europe

Delta Electronics (Netherlands) B.V.

Eindhoven Office
De Witbogt 20, 5652 AG Eindhoven, The Netherlands
TEL: +31 (0)40-8003800 / FAX: +31 (0)40-8003898

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