



Automation for a Changing World

Delta AC Servo Drive ASDA-A2 Series



www.deltaww.com

 **DELTA**
Smarter. Greener. Together.

More Rapid, More Stable, More Precise

Delta Electronics, Inc., a leading manufacturer of industrial automation products, is pleased to announce the launch of its new high-performance ASDA-A2 series servo motors and servo drives with motion control.

The current trend for motion control has the control command source close to the drive. In response, Delta has developed the new ASDA-A2 series that offers excellent motion control so that the external controller is almost eliminated. ASDA-A2 series features a built-in electronic cam (E-Cam) function which provides an excellent solution for flying shear, rotary cut and synchronized motion applications. The all new position register control PR mode is a unique and significant function that provides a variety of control modes to enhance system performance.

The ASDA-A2 series also supports various industrial communications protocols, such as CANopen, DMCNET, EtherCAT which offers higher performance and high speed communications and enable the drive to integrate with other part of the automation more efficiently and effectively. The full-closed loop control, auto notch filter, vibration suppression and gantry control functions help to perform complex motions that require high precision and smooth operation. The 20-bit superior resolution encoder which is essential for accurate positioning applications is equipped as standard. In addition, the outstanding Capture and Compare functions for high-speed pulses offer the best support for stepless positioning. Other additional functionality, such as up to 1kHz frequency response, innovative editing software, high-speed PC monitoring (similar to a digital oscilloscope), and more, all drastically maximize the performance of the ASDA-A2 series.

Delta's new ASDA-A2 series is the ultimate servo system providing a total solution for a wide range of machine tools and industrial applications



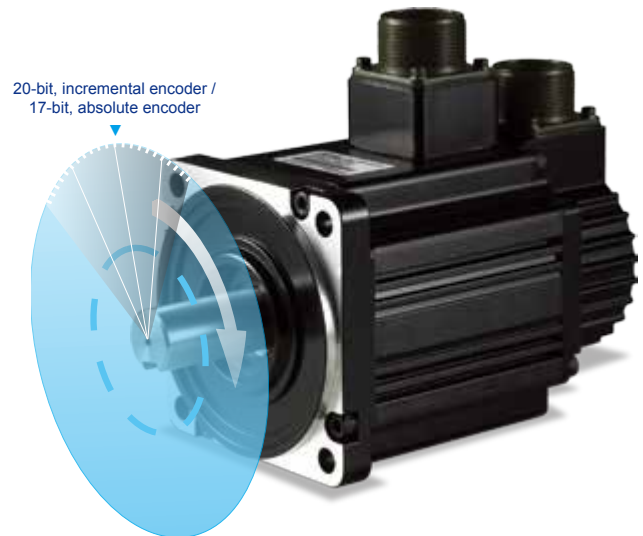
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ASDA-A2 Series Features

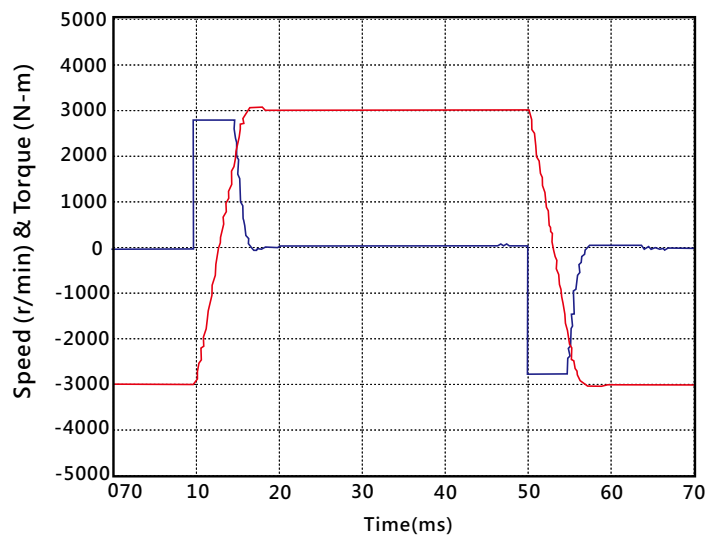
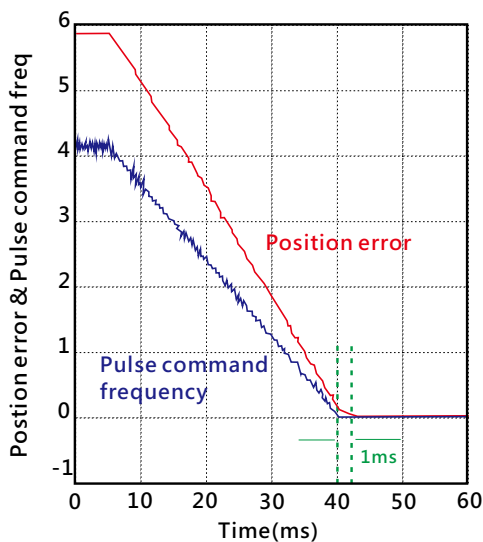
High Positioning Accuracy

- ▶ ECMA series servo motors feature incremental encoders with 20-bit resolution which can eliminate unstable commands at low speed, smooth motor operation and enhance the accuracy of positioning.
- ▶ Absolute encoder supported. 17-bit motor position will not get lost when power is cut off.



High Responsiveness

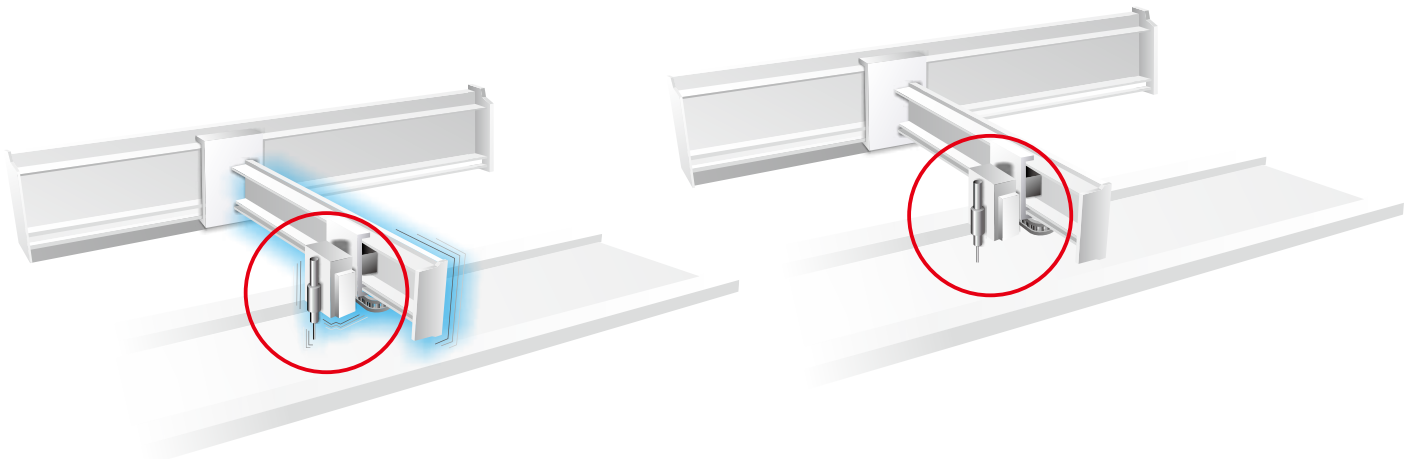
- ▶ Up to 1kHz frequency response.
- ▶ Settling time below 1ms.
- ▶ 7ms acceleration time for speeds from -3000 r/min to 3000 r/min with an empty load!
(Note: The test record of a 400W motor with 60mm frame size)



Excellent Suppression Functions

▶ Vibration Suppression (Low Frequency)

Two vibration suppression filters are provided for long arm system to minimize the vibration at machine edges effectively.

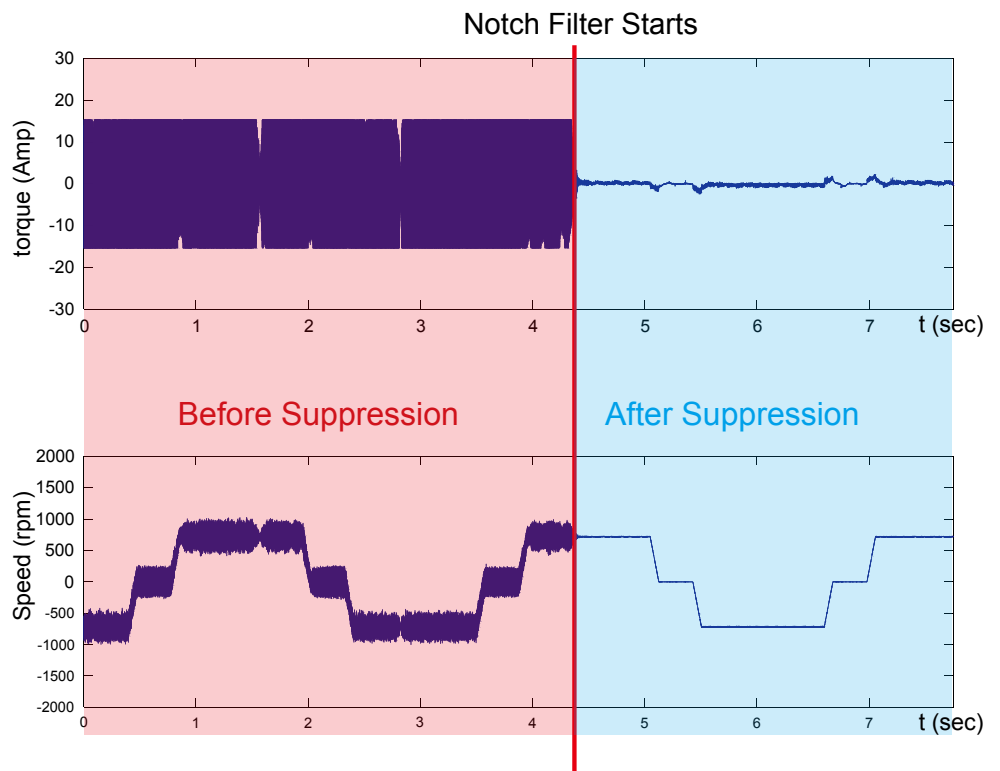


Without Suppression
Function When Settling

With Suppression
Function When Settling

▶ Resonance Suppression (High Frequency)

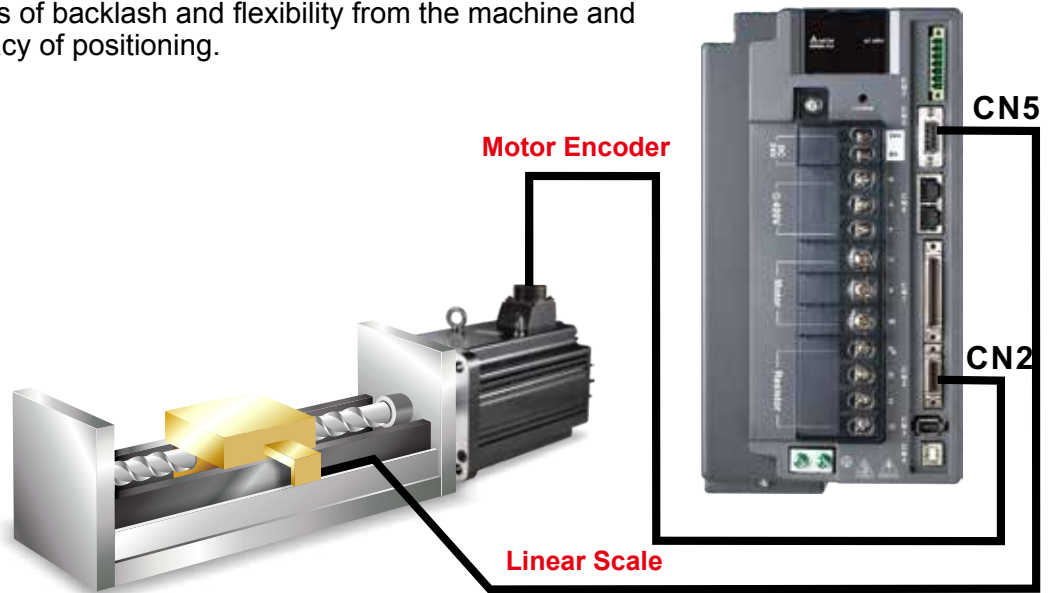
Two auto notch filters and one manual notch filter are provided to suppress mechanical resonance efficiently.



ASDA-A2 Series Features

Full-Closed Loop Control Function

- ▶ Reduces the effects of backlash and flexibility from the machine and ensures the accuracy of positioning.



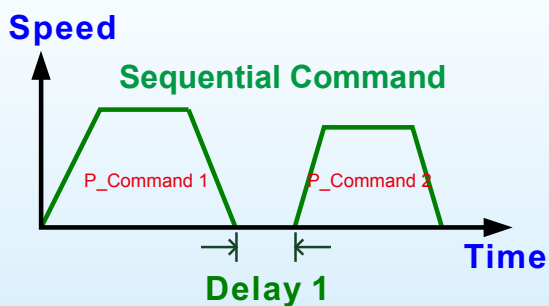
Electronic Cam (E-Cam) Function

- ▶ 720 points max. for E-Cam outline.
- ▶ Smooth interpolation between points can be completed automatically to yield a flexible programming.
- ▶ ASDA-Soft configuration software supported.
- ▶ Easy to use for flying shear, rotary cut, and other cam applications.

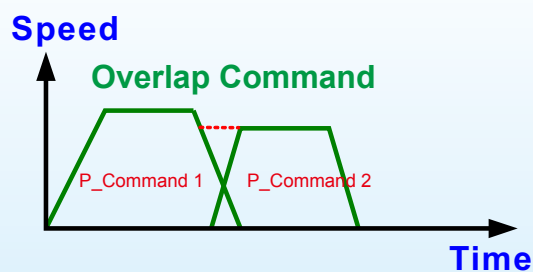


Versatile PR Mode

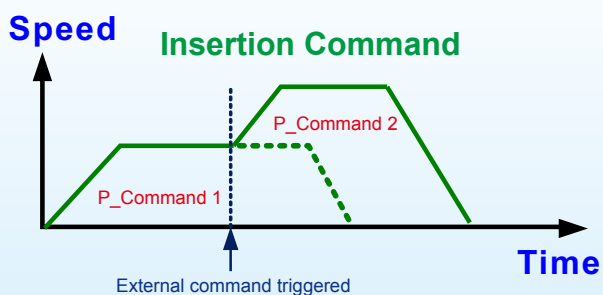
- ▶ ASDA-Soft configuration software supported.
- ▶ New sub-modes supported, not traditional point-to-point control.
- ▶ 64 procedures can be applied.
- ▶ Motion profile can be changed instantaneously.
- ▶ 35 Homing modes / Jump mode / Write parameter mode / Constant speed mode / Position control mode supported.



A command is executed only when the previous command is completed.



The second command is executed after the delay time or during the deceleration period.



Insertion changes the command executed at the moment it is inserted.

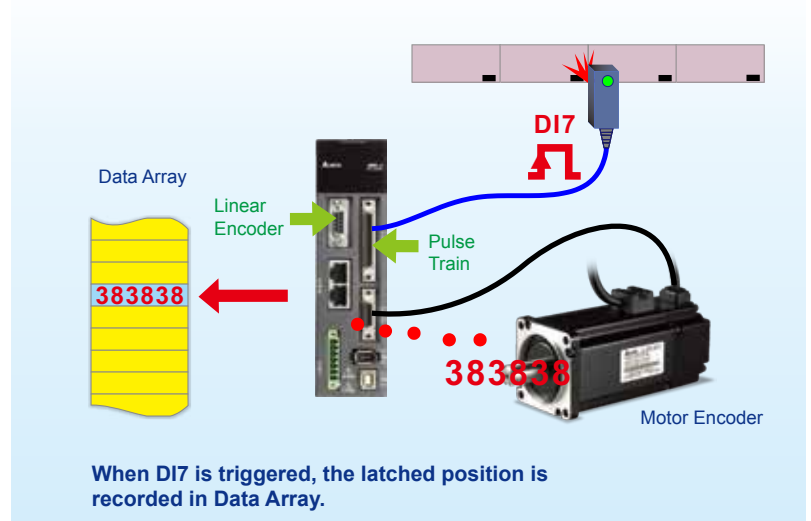


ASDA-A2 Series Features

Capture and Compare Functions

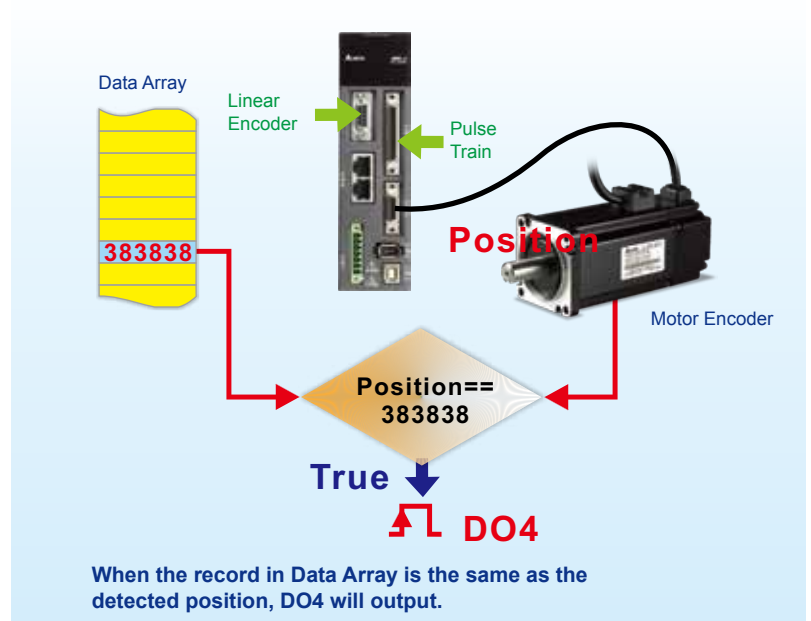
Capture - Position Latch Function

- ▶ Latches the coordinate value on the reference axis.
- ▶ Response time is less than 5us.
- ▶ It can be used to do mark tracing.
- ▶ Maximum 800 records

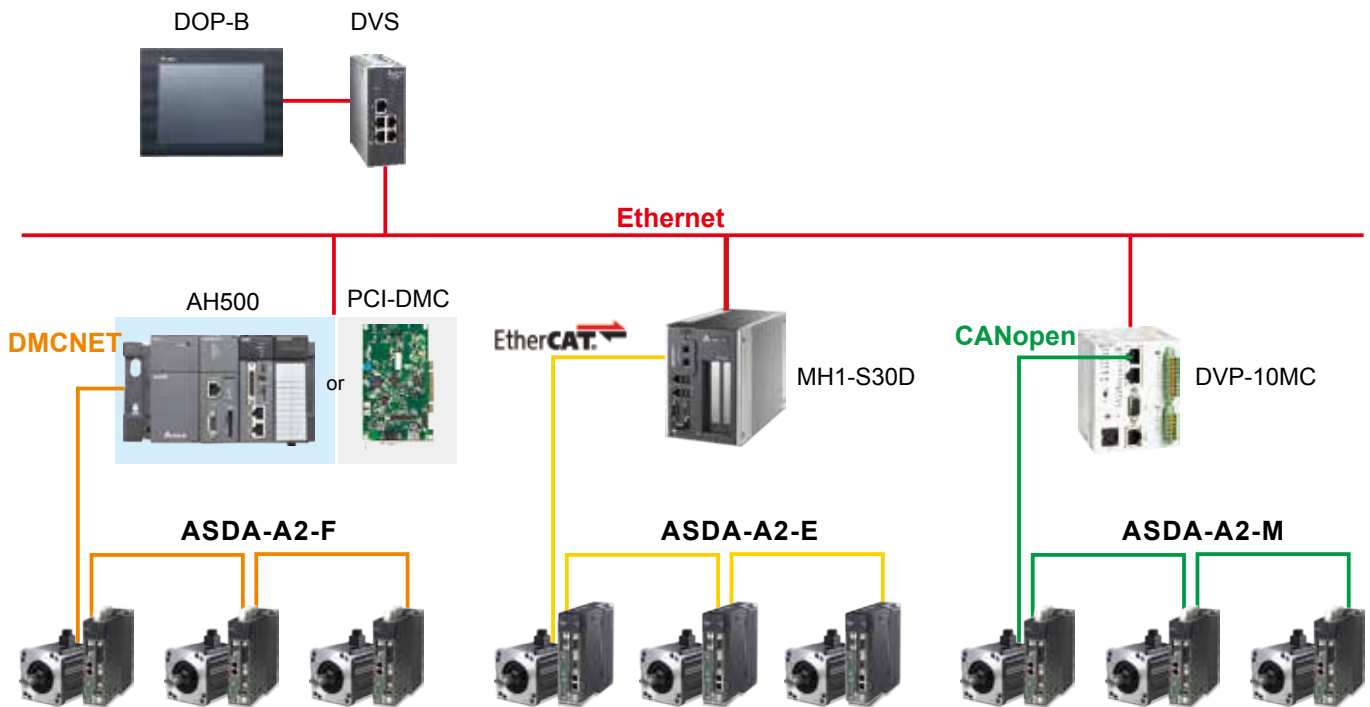


Compare - Position Detection Function

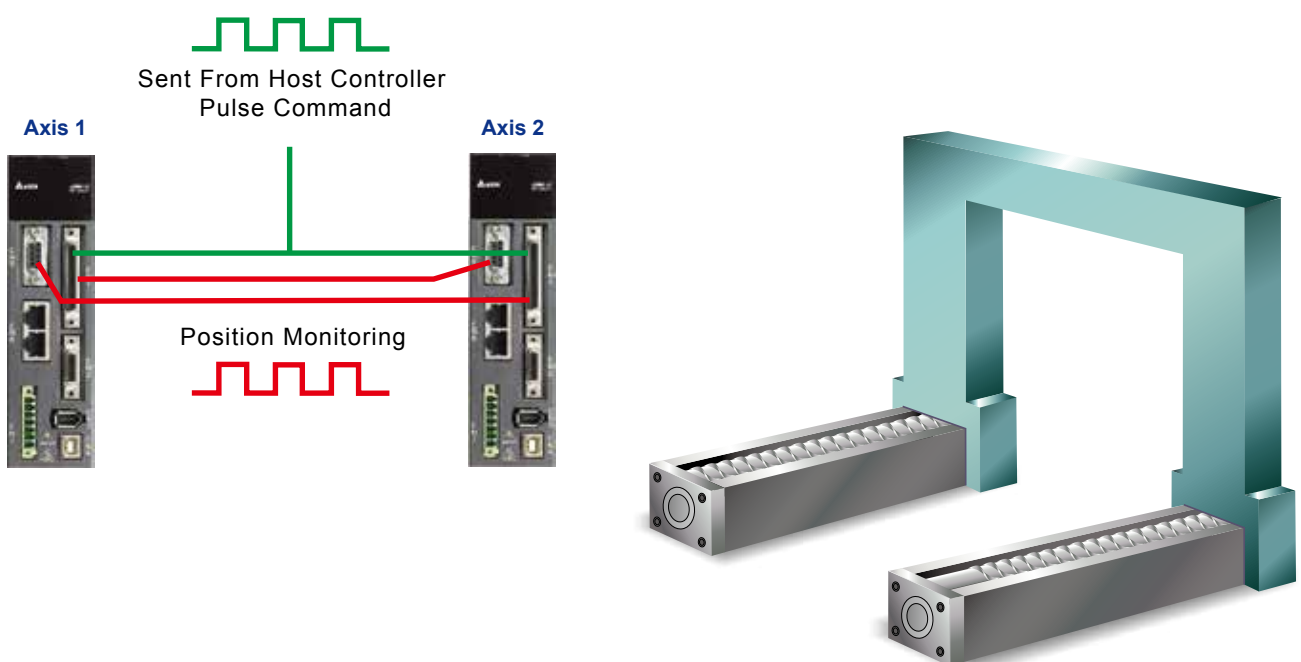
- ▶ Detects the location on the reference axis.
- ▶ Response time is less than 5us.
- ▶ It can be used for CCD camera applications.
- ▶ Maximum 800 records



Supports High-Speed DMCNET, EtherCAT, CANopen Protocols for Multi-Axis Synchronous Control



Integrated Gantry Control



Product Line-up

220V Series

Servo Motors				
Motor Series		Phase	Rated Output Power (W)	Model Name
Low Inertia	ECMA-C 3000 r/min	1-phase / 3-phase	50	ECMA-C1040F □ S
			100	ECMA-C △ 0401 □ S
			200	ECMA-C △ 0602 □ S
			400	ECMA-C △ 0604 □ S
			400	ECMA-C △ 0804 □ 7
			750	ECMA-C △ 0807 □ S
			750	ECMA-C △ 0907 □ S
			1000	ECMA-C △ 0910 □ S
			1000	ECMA-C △ 1010 □ S
			2000	ECMA-C △ 1020 □ S
			3000	ECMA-C △ 1330 □ 4
Medium Inertia	ECMA-E 2000 r/min	1-phase / 3-phase	500	ECMA-E △ 1305 □ S
			1000	ECMA-E △ 1310 □ S
			1500	ECMA-E △ 1315 □ S
			2000	ECMA-E △ 1320 □ S
			2000	ECMA-E △ 1820 □ S
			3000	ECMA-E △ 1830 □ S
			3500	ECMA-E △ 1835 □ S
Medium-High Inertia	ECMA-F 1500 r/min	1-phase / 3-phase	500	ECMA-F △ 1305 □ S
			850	ECMA-F △ 1308 □ S
			1300	ECMA-F △ 1313 □ S
			1800	ECMA-F △ 1318 □ S
			3000	ECMA-F △ 1830 □ S
			4500	ECMA-F △ 1845 □ S
			5500	ECMA-F △ 1855 □ 3
			7500	ECMA-F △ 1875 □ 3
			11000	ECMA-F1221B □ 3
			15000	ECMA-F1221F □ S
High Inertia	ECMA-C/G 3000 r/min	1-phase / 3-phase	400	ECMA-C △ 0604 □ H
			750	ECMA-C △ 0807 □ H
			300	ECMA-G △ 1303 □ S
			600	ECMA-G △ 1306 □ S
			900	ECMA-G △ 1309 □ S



- 1) The boxes (□) at the ends of the servo drive model names are for optional configurations. For the actual model name, please refer to the model explanation of
- 2) The boxes (△) in the model names represent encoder type. △ =1: Incremental encoder, 20-bit; △ =2: Incremental encoder, 17-bit; △ =A: Absolute type
- 3) The boxes (□) in the model names represent shaft end/brake or the number of oil seal.

		Servo Drives		
Rated current (Arms)	Maximum current (A)	Model Name	Continuous Output Current (Arms)	Max. Instantaneous Current (A)
0.69	2.05	ASD-A2-0121-□	0.90	2.70
0.90	2.70			
1.55	4.65	ASD-A2-0221-□	1.55	4.65
2.60	7.80	ASD-A2-0421-□	2.60	7.80
2.60	7.80			
5.10	15.30	ASD-A2-0721-□	5.10	15.30
3.66	11.00			
4.25	12.37	ASD-A2-1021-□	7.30	21.90
7.30	21.90			
12.05	36.15	ASD-A2-2023-□	13.40	40.20
17.2	47.5	ASD-A2-3023-□	19.40	58.20
2.90	8.70	ASD-A2-0421-□	2.60	7.80
5.60	16.80	ASD-A2-1021-□	7.30	21.90
8.30	24.90	ASD-A2-1521-□	8.30	24.90
11.01	33.03	ASD-A2-2023-□	13.40	40.20
11.22	33.66			
16.10	48.30	ASD-A2-3023-□	19.40	58.20
19.20	57.60			
3.90	12.10	ASD-A2-0721-□	5.10	15.30
7.10	19.40	ASD-A2-1021-□	7.30	21.90
12.60	38.60	ASD-A2-2023-□	13.40	40.20
13.00	36.00			
19.40	58.20	ASD-A2-3023-□	19.40	58.20
32.50	81.30	ASD-A2-4523-□	32.50	70.7
40.00	100.00	ASD-A2-5523-□	40.00	106
47.50	118.80	ASD-A2-7523-□	47.50	141.1
51.80	129.50	ASD-A2-1B23-□	54.40	141.1
61.50	145.70	ASD-A2-1F23-□	70.00	212.2
2.60	7.80	ASD-A2-0421 □	2.60	7.80
5.10	15.30	ASD-A2-0721-□	5.10	15.30
2.50	7.50	ASD-A2-0421-□	2.60	7.80
4.80	14.40	ASD-A2-0721-□	5.10	15.30
7.50	22.50	ASD-A2-1021-□	7.30	21.90

the servo drive.

Product Line-up

400V Series

Servo Motors				
Motor Series		Phase	Rated Output Power (W)	Model Name
Low Inertia	ECMA-J 3000 r/min	3-phase	400	ECMA-J △ 0604 □ S
			750	ECMA-J △ 0807 □ S
			750	ECMA-J △ 0907 □ S
			1000	ECMA-J △ 0910 □ S
			1000	ECMA-J △ 1010 □ S
			2000	ECMA-J △ 1020 □ S
			3000	ECMA-J △ 1330 □ 4
Medium Inertia	ECMA-K 2000 r/min	3-phase	750	ECMA-K △ 1305 □ S
			1000	ECMA-K △ 1310 □ S
			1500	ECMA-K △ 1315 □ S
			2000	ECMA-K △ 1320 □ S
			2000	ECMA-K △ 1820 □ S
Medium-High Inertia	ECMA-L 1500 r/min	3-phase	750	ECMA-L △ 1305 □ S
			850	ECMA-L △ 1308 □ S
			1300	ECMA-L △ 1313 □ S
			3000	ECMA-L △ 1830 □ S
			4500	ECMA-L △ 1845 □ S
			5500	ECMA-L △ 1855 □ 3
			7500	ECMA-L △ 1875 □ 3
High Inertia	ECMA-G 3000 r/min	3-phase	900	ECMA-M △ 1309 □ S



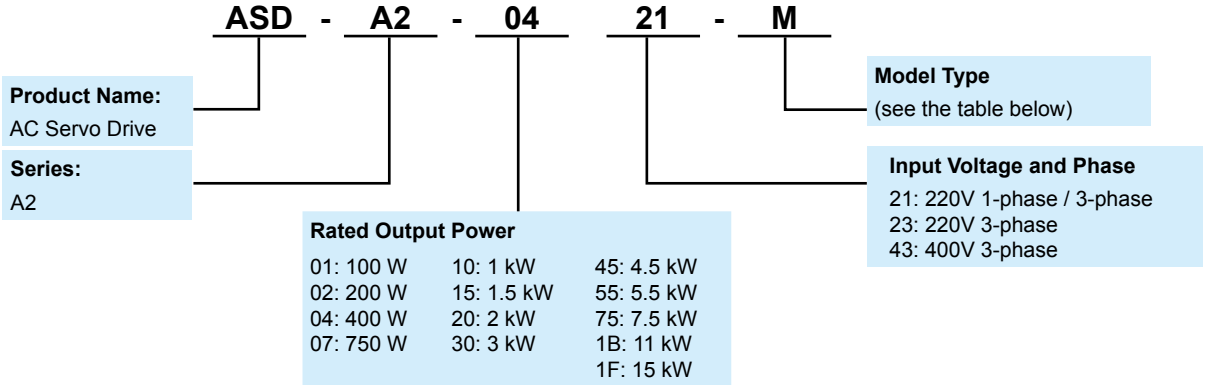
- 1) The boxes (□) at the ends of the servo drive model names are for optional configurations. For the actual model name, please refer to the model explanation of the servo drive.
- 2) The boxes (△) in the model names represent encoder type. △ =1: Incremental encoder, 20-bit ; △ =2: Incremental encoder, 17-bit; △ =A: Absolute type
- 3) The boxes (□) in the model names represent shaft end/brake or the number of oil seal.

		Servo Drives		
Rated current (Arms)	Maximum current (A)	Model Name	Continuous Output Current (Arms)	Max. Instantaneous Current (A)
1.62	4.85	ASD-A2-0743-□	3.07	9.21
3.07	9.5	ASD-A2-0743-□	3.07	9.21
2.16	6.37	ASD-A2-0743-□	3.07	9.21
2.4	7.17	ASD-A2-1043-□	3.52	9.86
4.15	12.46	ASD-A2-1543-□	5.02	10.04
7.09	21.28	ASD-A2-2043-□	6.66	18.65
9.8	29.99	ASD-A2-3043-□	11.9	33.32
1.7	5.2	ASD-A2-0743-□	3.07	9.21
3.52	10.56	ASD-A2-1043-□	3.52	9.86
5.02	15.06	ASD-A2-1543-□	5.02	10.04
6.66	19.98	ASD-A2-2043-□	6.66	18.65
6.6	19.88	ASD-A2-2043-□	6.66	18.65
2.1	6.1	ASD-A2-0743-□	3.07	9.21
3.4	8.85	ASD-A2-1043-□	3.52	9.86
5.02	15	ASD-A2-1543-□	5.02	10.04
11.53	34.6	ASD-A2-3043-□	11.9	33.32
20.8	52	ASD-A2-4543-□	20	44
22.37	56	ASD-A2-5543-□	22.04	48.49
27.3	68.3	ASD-A2-7543-□	28.39	62.46
4.4	13.1	ASD-A2-1543-□	5.02	10.04

the servo drive.

Model Explanation

ASDA-A2 Series Servo Drives

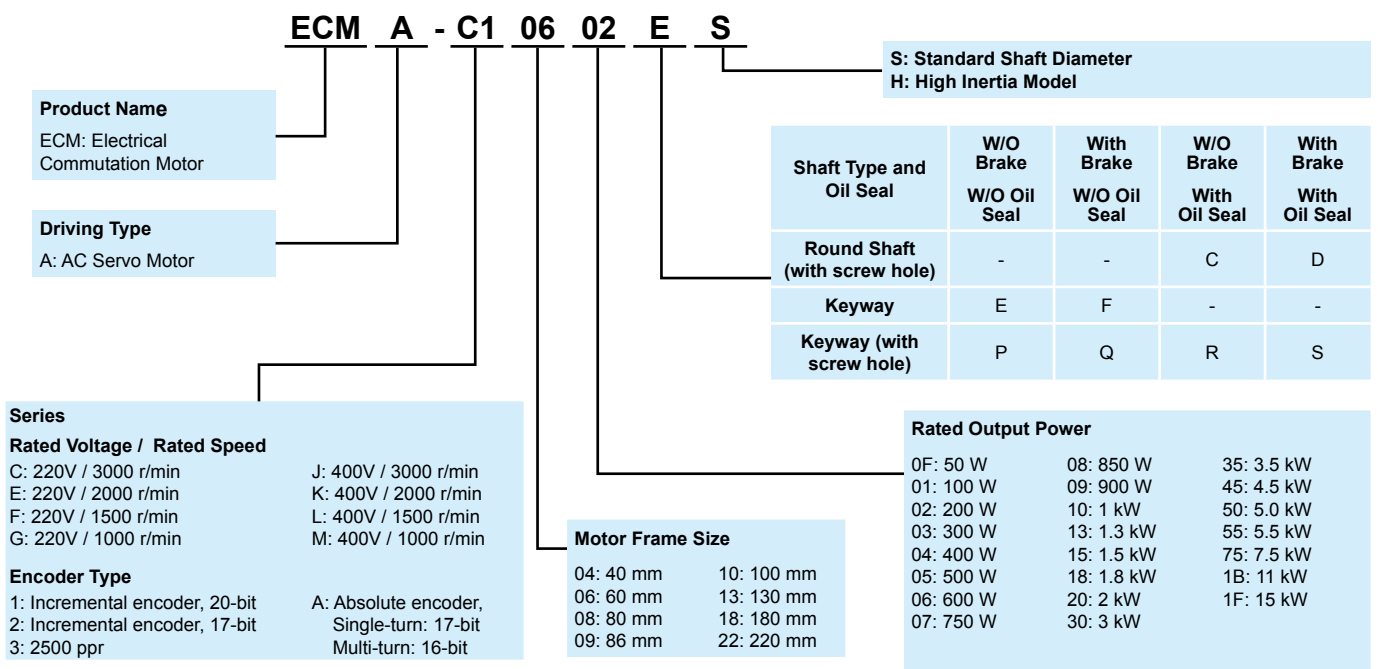


	Type	RS-485 (CN3)	Full-Closed Control (CN5) *1	Extension Port for Digital Input (CN7)	EtherCAT *4	CANopen	DMCNET	Analog Voltage Control	Pulse Input Port	PR Parameters *2	E-Cam *3
Standard Type	L	○	○	X	X	X	X	○	○	○	X
	U	○	○	○	X	X	X	○	○	○	○
Network Type	E	X	○	○	○	X	X	X	X	○	○
	F	○	○	X	X	X	○	X	X	○	X
	M	○	○	X	X	○	X	○	○	○	○



1. In PR mode, only A2-F supports full-closed control function.
2. PR parameters can be read and written through communication by DMCNET only.
3. E-cam function can only be used in PR mode.
4. For information about ASDA A2-E EtherCAT interface servo drive, please refer to the ASDA A2-E brochure.

ECMA Series Servo Motors



Servo Motor Features

ECMA series servo motors are permanent AC servo motors, capable of combining with 200 to 230V ASDA-A2 220V series AC servo drives from 50 W to 15 kW and 380V to 480V ASDA-A2 400V series AC servo drives from 750 W to 7.5 kW.


For the 220V series, there are 40 mm, 60 mm, 80 mm, 86 mm, 100 mm, 130 mm, 180 mm, and 200 mm eight kinds of frame sizes available. The motor speed is from 1000 r/min to 5000 r/min and the torque output is from 0.477 N-m to 224 N-m.

For the 400V series, there are 60 mm, 80 mm, 86 mm, 100 mm, 130 mm, 180 mm, six kinds of frame sizes available. The motor speed is from 1500 r/min to 5000 r/min and the torque output is from 3.82 N-m to 119.36 N-m. In terms of optional configurations, ECMA series provides brake and oil seal to fully support our customers' needs. It also offers two different shaft selections, round shaft and keyway, for various applications.



Servo Motor Specifications

Low Inertia Series- 220V Series

ECMA Series	C 104	C Δ 04	C Δ 06		C Δ 08		C Δ 09		C Δ 10		C Δ 13
	0F	01	02	04 □ S	04	07	07	10	10	20	30
Rated output power (kW)	0.05	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	0.159	0.32	0.64	1.27	1.27	2.39	2.39	3.18	3.18	6.37	9.55
Maximum torque (N-m)	0.477	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)	0.69	0.90	1.55	2.6	2.6	5.1	3.66	4.25	7.3	12.05	17.2
Maximum current (A)	2.05	2.70	4.65	7.8	7.8	15.3	11	12.37	21.9	36.15	47.5
Power rating (kW/s)	12.27	27.7	22.4	57.6	24.0	50.4	29.6	38.6	38.1	90.6	71.8
Rotor moment of inertia (x10 ⁻⁴ kg-m ²)	0.0206	0.037	0.177	0.277	0.68	1.13	1.93	2.62	2.65	4.45	12.7
Mechanical time constant (ms)	1.2	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)	0.23	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))	9.8	13.6	16	17.4	18.5	17.2	24.2	27.5	16.8	19.2	20.98
Armature resistance (Ohm)	12.7	9.30	2.79	1.55	0.93	0.42	1.34	0.897	0.20	0.13	0.0976
Armature inductance (mH)	26	24.0	12.07	6.71	7.39	3.53	7.55	5.7	1.81	1.50	1.21
Electrical time constant (ms)	2.05	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	100MΩ , DC 500V above										
Insulation strength	1.8k Vac, 1 sec										
Weight (kg)(without brake)	0.42	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	78.4	196	196	245	245	245	245	490	490	490
Max. thrust shaft load (N)	39.2	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 moment of inertia (x10 ⁻⁴ kg-m ²)(with brake)	--	0.04	0.19	0.30	0.73	1.18	1.95	2.67	3.33	4.95	14.0
Mechanical time 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 [Nt-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										
Storage temperature (°C)	-10°C to 80°C										
Operating humidity	20 to 90%RH (non-condensing)										
Storage humidity	20 to 90%RH (non-condensing)										
Vibration capacity	2.5G										
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))										
Approvals											


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

ECMA---04 / 06 / 08: 250 mm x 250 mm x 6 mm
 ECMA---10: 300 mm x 300 mm x 12 mm
 ECMA---13: 400 mm x 400 mm x 20 mm
 ECMA---18: 550 mm x 550 mm x 30 mm
 ECMA---22: 650 mm x 650 mm x 35 mm

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.

Medium Series- 220V Series

ECMA Series	E △ 13				E △ 18		
	05	10	15	20	20	30	35
Rated output power (kW)	0.5	1.0	1.5	2.0	2.0	3.0	3.5
Rated torque (N-m) ^{*1}	2.39	4.77	7.16	9.55	9.55	14.32	16.71
Maximum torque (N-m)	7.16	14.3	21.48	28.65	28.65	42.97	50.13
Rated speed (r/min)	2000						
Maximum speed (r/min)	3000						
Rated current (A)	2.9	5.6	8.3	11.01	11.22	16.1	19.2
Maximum current (A)	8.7	16.8	24.9	33.03	33.66	48.3	57.6
Power rating (kW/s)	7.0	27.1	45.9	62.5	26.3	37.3	50.8
Rotor moment of inertia (x10 ⁻⁴ kg-m ²)(without brake)	8.17	8.41	11.18	14.59	34.68	54.95	54.95
Mechanical time constant (ms)	1.91	1.51	1.10	0.96	1.62	1.06	1.08
Torque constant-KT (N-m/A)	0.83	0.85	0.87	0.87	0.85	0.89	0.87
Voltage constant-KE (mV/(r/min))	30.9	31.9	31.8	31.8	31.4	32.0	32
Armature resistance (Ohm)	0.57	0.47	0.26	0.174	0.119	0.052	0.052
Armature inductance (mH)	7.39	5.99	4.01	2.76	2.84	1.38	1.38
Electrical time constant (ms)	12.96	12.88	15.31	15.86	23.87	26.39	26.39
Insulation class	Class A (UL), Class B (CE)						
Insulation resistance	100MΩ , DC 500V above						
Insulation strength	1.8k Vac,1 sec						
Weight (kg)(without brake)	6.8	7.0	7.5	7.8	13.5	18.5	18.5
Weight (kg)(with brake)	8.2	8.4	8.9	9.2	17.5	22.5	22.5
Max. radial shaft load (N)	490	490	490	490	1176	1470	490
Max. thrust shaft load (N)	98	98	98	98	490	490	98
Power rating (kW/s)(with brake)	6.4	24.9	43.1	57.4	24.1	35.9	48.9
Rotor moment of inertia (x10 ⁻⁴ kg-m ²)(with brake)	8.94	9.14	11.90	15.88	37.86	57.06	57.06
Mechanical time constant (ms)(with brake)	2.07	1.64	1.19	1.05	1.77	1.10	1.12
Brake holding torque [Nt-m (min)] ^{*2}	10.0	10.0	10.0	10.0	25.0	25.0	25.0
Brake power consumption (at 20°C)[W]	19.0	19.0	19.0	19.0	20.4	20.4	20.4
Brake release time [ms (Max)]	10	10	10	10	10	10	10
Brake pull-in time [ms (Max)]	70	70	70	70	70	70	70
Vibration grade (μm)	15						
Operating temperature (°C)	0°C to 40°C						
Storage temperature (°C)	-10°C to 80°C						
Operating humidity	20 to 90%RH (non-condensing)						
Storage humidity	20 to 90%RH (non-condensing)						
Vibration capacity	2.5G						
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))						
Approvals							

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


ECMA-__ 04 / 06 / 08: 250 mm x 250 mm x 6 mm
 ECMA-__ 10: 300 mm x 300 mm x 12 mm
 ECMA-__ 13: 400 mm x 400 mm x 20 mm
 ECMA-__ 18: 550 mm x 550 mm x 30 mm
 ECMA-__ 22: 650 mm x 650 mm x 35 mm

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- 220V Series

ECMA Series	F Δ 13				F Δ 18				F Δ 22	
	05	08	13	18	30	45	55	75	1B	1F
Rated output power (kW)	0.5	0.85	1.3	1.8	3.0	4.5	5.5	7.5	11	15
Rated torque (N-m) ¹	3.18	5.41	8.34	11.48	19.10	28.65	35.01	47.74	70	95.4
Maximum torque (N-m)	8.92	13.8	23.3	28.7	57.29	71.62	87.53	119.36	175	224.0
Rated speed (r/min)	1500									
Maximum speed (r/min)	3000								2000	
Rated current (A)	3.9	7.1	12.6	13	19.4	32.5	40.0	47.5	51.8	67
Maximum current (A)	12.1	19.4	38.6	36	58.2	81.3	100.0	118.8	129.5	162
Power rating (kW/s)	9.8	21.52	34.78	52.93	66.4	105.5	122.9	159.7	144.9	201.8
Rotor moment of inertia (x10 ⁻⁴ kg-m ²)(without brake)	10.3	13.6	20	24.9	54.95	77.75	99.78	142.7	338	451
Mechanical time constant (ms)	2.8	2.43	1.62	1.7	1.28	0.92	0.96	0.63	1.38	1.23
Torque constant-KT (N-m/A)	0.82	0.76	0.66	0.88	0.98	0.88	0.88	1.01	1.37	1.42
Voltage constant-KE (mV/(r/min))	29.5	29.2	24.2	32.2	35.0	32.0	31.0	35.5	49	50
Armature resistance (Ohm)	0.624	0.38	0.124	0.185	0.077	0.032	0.025	0.015	0.026	0.0184
Armature inductance (mH)	7	4.77	1.7	2.6	1.27	0.89	0.60	0.40	0.65	0.48
Electrical time constant (ms)	11.22	12.55	13.71	14.05	16.5	27.8	24.0	26.7	24.79	26.09
Insulation class	Class A (UL), Class B (CE)									
Insulation resistance	100M Ω , DC 500V above									
Insulation strength	1.8k Vac, 1 sec									
Weight (kg)(without brake)	6.3	8.6	9.4	10.5	18.5	23.5	30.5	40.5	56.4	75
Weight (kg)(with brake)	7.7	10.0	10.8	11.9	22.5	29	36	46	68.4	87
Max. radial shaft load (N)	490	490	490	490	1470	1470	1764	1764	3300	3300
Max. thrust shaft load (N)	98	98	98	98	490	490	588	588	1100	1100
Power rating (kW/s)(with brake)	8.8	19.78	32.66	50.3	63.9	101.8	119.4	156.6	141.4	197.1
Rotor moment of inertia (x10 ⁻⁴ kg-m ²)(with brake)	11.5	14.8	21.3	26.2	57.06	80.65	102.70	145.55	346.5	461.8
Mechanical time constant (ms)(with brake)	3.12	2.65	1.73	1.79	1.33	0.96	0.99	0.64	1.41	1.25
Brake holding torque[Nt-m(min)] ²	10	10.0	10.0	10.0	25.0	55.0	55.0	55.0	115	115
Brake power consumption (at 20°C)[W]	19	19.0	19.0	19.0	20.4	19.9	19.9	19.9	28.8	28.8
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 (μ m)	15									
Operating temperature (°C)	0°C to 40°C									
Storage temperature (°C)	-10°C to 80°C									
Operating humidity	20 to 90%RH (non-condensing)									
Storage humidity	20 to 90%RH (non-condensing)									
Vibration capacity	2.5G									
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))									
Approvals										

*1. Rate torque values are continuous permissible values at 0 ~ 40°C ambient temperature when attaching with the sizes of heatsinks listed below:
 ECMA-__ 04 / 06 / 08: 250 mm x 250 mm x 6 mm
 ECMA-__ 10: 300 mm x 300 mm x 12 mm
 ECMA-__ 13: 400 mm x 400 mm x 20 mm
 ECMA-__ 18: 550 mm x 550 mm x 30 mm
 ECMA-__ 22: 650 mm x 650 mm x 35 mm
 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.

High Inertia Series- 220V Series

ECMA Series	C Δ 06	C Δ 08	G Δ 13		
	04 \square H	07 \square H	03	06	09
Rated output power (kW)	0.4	0.75	0.3	0.6	0.9
Rated torque (N-m) ^{*1}	1.27	2.39	2.86	5.73	8.59
Maximum torque (N-m)	3.82	7.16	8.59	17.19	21.48
Rated speed (r/min)	3000		1000		
Maximum speed (r/min)	5000		2000		
Rated current (A)	2.6	5.1	2.5	4.8	7.5
Maximum current (A)	7.8	15.3	7.5	14.4	22.5
Power rating (kW/s)	21.7	19.63	10.0	39.0	66.0
Rotor moment of inertia (x10 ⁻⁴ kg-m ²)(without brake)	0.743	2.91	8.17	8.41	11.18
Mechanical time constant (ms)	1.42	1.6	1.84	1.40	1.06
Torque constant-KT (N-m/A)	0.49	0.47	1.15	1.19	1.15
Voltage constant-KE (mV/(r/min))	17.4	17.2	42.5	43.8	41.6
Armature resistance (Ohm)	1.55	0.42	1.06	0.82	0.43
Armature inductance (mH)	6.71	3.53	14.29	11.12	6.97
Electrical time constant (ms)	4.3	8.36	13.5	13.50	16.06
Insulation class	Class A (UL), Class B (CE)				
Insulation resistance	100M Ω , DC 500V above				
Insulation strength	1.8k Vac,1 sec				
Weight (kg)(without brake)	1.8	3.4	6.8	7.0	7.5
Weight (kg)(with brake)	2.2	3.9	8.2	8.4	8.9
Max. radial shaft load (N)	196	245	490	490	490
Max. thrust shaft load (N)	68	98	98	98	98
Power rating (kW/s)(with brake)	21.48	19.3	9.2	35.9	62.1
Rotor moment of inertia (x10 ⁻⁴ kg-m ²)(with brake)	0.751	2.96	8.94	9.14	11.9
Mechanical time constant (ms)(with brake)	1.43	1.62	2.0	1.51	1.13
Brake holding torque [Nt-m (min)] ^{*2}	1.3	2.5	10.0	10.0	10.0
Brake power consumption (at 20°C)[W]	6.5	8.2	19.0	19.0	19.0
Brake release time [ms (Max)]	10	10	10	10	10
Brake pull-in time [ms (Max)]	70	70	70	70	70
Vibration grade (μ m)	15				
Operating temperature (°C)	0°C to 40°C				
Storage temperature (°C)	-10°C to 80°C				
Operating humidity	20 to 90%RH (non-condensing)				
Storage humidity	20 to 90%RH (non-condensing)				
Vibration capacity	2.5G				
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))				
Approvals					

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


ECMA-__ 04 / 06 / 08: 250 mm x 250 mm x 6 mm
 ECMA-__ 10: 300 mm x 300 mm x 12 mm
 ECMA-__ 13: 400 mm x 400 mm x 20 mm
 ECMA-__ 18: 550 mm x 550 mm x 30 mm
 ECMA-__ 22: 650 mm x 650 mm x 35 mm

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


Low / Medium Series- 400V Series

ECMA Series	J Δ 06	J Δ 08	J Δ 09		J Δ 10		J Δ 13	K Δ 13				K Δ 18
	04	07	07	10	10	20	30	05	10	15	20	20
Rated output power (kW)	0.4	0.75	0.75	1	1.0	2.0	3.0	0.5	1.0	1.5	2.0	2.0
Rated torque (N-m) ¹	1.27	2.39	2.39	3.18	3.18	6.37	9.55	2.39	4.77	7.16	9.55	9.55
Maximum torque (N-m)	3.82	7.16	7.14	8.78	9.54	19.1	28.65	7.16	14.32	21.48	28.65	28.65
Rated speed (r/min)	3000		3000		3000		3000	2000				
Maximum speed (r/min)	5000		3000		5000		4500	3000				
Rated current (A)	1.62	3.07	2.16	2.4	4.15	7.09	9.8	1.7	3.52	5.02	6.66	6.6
Maximum current (A)	4.85	9.5	6.37	7.17	12.46	21.28	29.99	5.2	10.56	15.06	19.98	19.88
Power rating (kW/s)	58.2	50.4	29.6	38.6	38.2	91.2	71.8	6.99	27.1	45.9	62.5	26.3
Rotor moment of inertia (x10 ⁻⁴ kg-m ²)(without brake)	0.277	1.13	1.93	2.62	2.65	4.45	12.7	8.17	8.41	11.18	14.59	34.68
Mechanical time constant (ms)	0.47	0.66	1.56	1.06	0.77	0.58	0.99	2.08	1.80	1.24	1.04	1.74
Torque constant-KT (N-m/A)	0.79	0.78	1.12	1.29	0.77	0.9	0.97	1.41	1.35	1.43	1.43	1.45
Voltage constant-KE (mV/(r/min))	30.6	28.24	42	50.9	29.0	34.4	37.3	51.5	53.2	55	55	54.0
Armature resistance (Ohm)	3.95	1.22	3.62	2.58	0.617	0.388	0.269	1.76	1.47	0.83	0.57	0.376
Armature inductance (mH)	21.3	10.68	21.2	15.28	6.03	4.62	3.55	22.4	17.79	11.67	8.29	7.87
Electrical time constant (ms)	5.39	8.75	5.85	5.93	9.77	11.9	13.2	12.73	12.04	14.04	14.39	20.9
Insulation class	Class A (UL), Class B (CE)											
Insulation resistance	100M Ω , DC 500V above											
Insulation strength	2.3k Vac, 1 sec											
Weight (kg)(without brake)	1.6	3.0	2.9	3.8	4.3	6.2	7.8	6.8	7.0	7.5	7.8	13.5
Weight (kg)(with brake)	2	3.8	-	-	4.7	7.2	9.2	8.2	8.4	8.9	9.2	17.5
Max. radial shaft load (N)	19.6	245	245	245	490	490	490	490	490	490	490	1176
Max. thrust shaft load (N)	68	98	98	98	98	98	98	98	98	98	98	490
Power rating (kW/s)(with brake)	53.8	48.4	29.3	37.9	30.4	82	65.1	6.39	24.9	43.1	59.7	24.1
Rotor moment of inertia (x10 ⁻⁴ kg-m ²)(with brake)	0.3	1.18	1.95	2.67	3.33	4.95	14.0	8.94	9.14	11.90	15.88	37.86
Mechanical time constant (ms)(with brake)	0.52	0.65	1.57	1.08	0.96	0.65	1.09	2.28	1.96	1.32	1.13	1.9
Brake holding torque [Nt-m (min)] ²	1.3	2.5	2.5	2.5	8.0	8.0	10.0	10.0	10.0	10.0	10.0	25.0
Brake power consumption (at 20°C)[W]	6.5	8.5	8.2	8.2	18.5	18.5	19.0	19.0	19.0	19.0	19.0	20.4
Brake release time [ms (Max)]	10	10	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	70	70
Vibration grade (μ m)	15											
Operating temperature (°C)	0°C to 40°C											
Storage temperature (°C)	-10°C to 80°C											
Operating humidity	20 to 90%RH (non-condensing)											
Storage humidity	20 to 90%RH (non-condensing)											
Vibration capacity	2.5G											
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))											
Approvals												

*1. Rate torque values are continuous permissible values at 0 ~ 40°C ambient temperature when attaching with the sizes of heatsinks listed below:
 ECMA-__ 08: 250 mm x 250 mm x 6 mm
 ECMA-__ 13: 400 mm x 400 mm x 20 mm
 ECMA-__ 18: 550 mm x 550 mm x 30 mm
 Material type : Aluminum – F80, 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.

Medium-High / High Inertia Series- 400V Series

ECMA Series	L Δ 13			L Δ 18				M Δ 13
	05	08	13	30	45	55	75	09
Rated output power (kW)	0.5	0.85	1.3	3.0	4.5	5.5	7.5	0.9
Rated torque (N-m) ^{*1}	3.18	5.39	8.34	19.10	28.65	35.0	47.74	8.59
Maximum torque (N-m)	8.92	13.8	23.3	57.29	71.62	87.53	119.36	21.48
Rated speed (r/min)	1500							1000
Maximum speed (r/min)	3000							2000
Rated current (A)	2.1	3.4	5.02	11.53	20.8	22.37	27.3	4.4
Maximum current (A)	6.1	8.85	15	34.6	52	56	68.3	13.1
Power rating (kW/s)	7.72	17.0	29.47	66.4	105.5	122.9	159.7	66
Rotor moment of inertia (x10 ⁻⁴ kg-m ²)(without brake)	13.1	17.1	23.6	54.95	77.75	99.78	142.7	11.18
Mechanical time constant (ms)	2.3	1.76	1.44	1.11	0.94	0.88	0.77	1.21
Torque constant-KT (N-m/A)	1.5	1.59	1.66	1.66	1.38	1.56	1.75	1.95
Voltage constant-KE (mV/(r/min))	55.5	58.9	61.1	64.4	53	58.9	66.4	71.7
Armature resistance (Ohm)	1.41	0.92	0.59	0.21	0.09	0.07	0.06	1.45
Armature inductance (mH)	20	14.1	9.54	4.94	2.36	2.2	1.7	23.3
Electrical time constant (ms)	14.1	15.33	16.17	23.97	28.07	27.6	28.29	16.07
Insulation class	Class A (UL), Class B (CE)							
Insulation resistance	100M Ω , DC 500V above							
Insulation strength	2.3k Vac, 1 sec							
Weight (kg)(without brake)	6.8	8.6	10.7	18.5	23.5	30.5	40.5	7.5
Weight (kg)(with brake)	-	10	--	22.5	29	36	46	8.9
Max. radial shaft load (N)	490	490	490	1470	1470	1764	1764	490
Max. thrust shaft load (N)	98	98	98	490	490	588	588	98
Power rating (kW/s)(with brake)	7.02	14.82	27.82	63.9	101.8	119.4	156.6	62
Rotor moment of inertia (x10 ⁻⁴ kg-m ²)(with brake)	14.4	19.6	25	57.06	80.65	102.70	145.5	11.9
Mechanical time constant (ms)(with brake)	2.54	2.02	1.52	1.16	0.95	0.91	0.79	1.29
Brake holding torque [Nt-m (min)] ^{*2}	10.0	10.0	10.0	25.0	55.0	55.0	55.0	10.0
Brake power consumption (at 20°C)[W]	19.0	19.0	19.0	20.4	19.9	19.9	19.9	19.0
Brake release time [ms (Max)]	10	10	10	10	10	10	10	10
Brake pull-in time [ms (Max)]	70	70	70	70	70	70	70	70
Vibration grade (μ m)	15							
Operating temperature (°C)	0°C to 40°C							
Storage temperature (°C)	-10°C to 80°C							
Operating humidity	20 to 90%RH (non-condensing)							
Storage humidity	20 to 90%RH (non-condensing)							
Vibration capacity	2.5G							
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))							
Approvals								

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

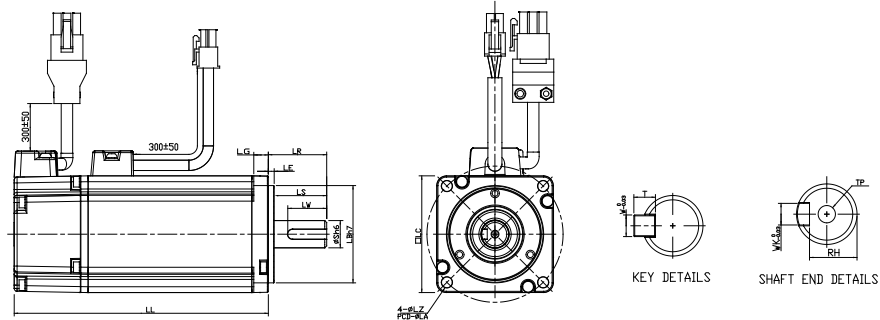
ECMA-__ 08: 250 mm x 250 mm x 6 mm
 ECMA-__ 13: 400 mm x 400 mm x 20 mm
 ECMA-__ 18: 550 mm x 550 mm x 30 mm
 ECMA-__ 22: 650 mm x 650 mm x 35 mm
 Material type : Aluminum – F80, F130, F180, F220

*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 Dimensions

220V Series

Frame Size 86mm and below

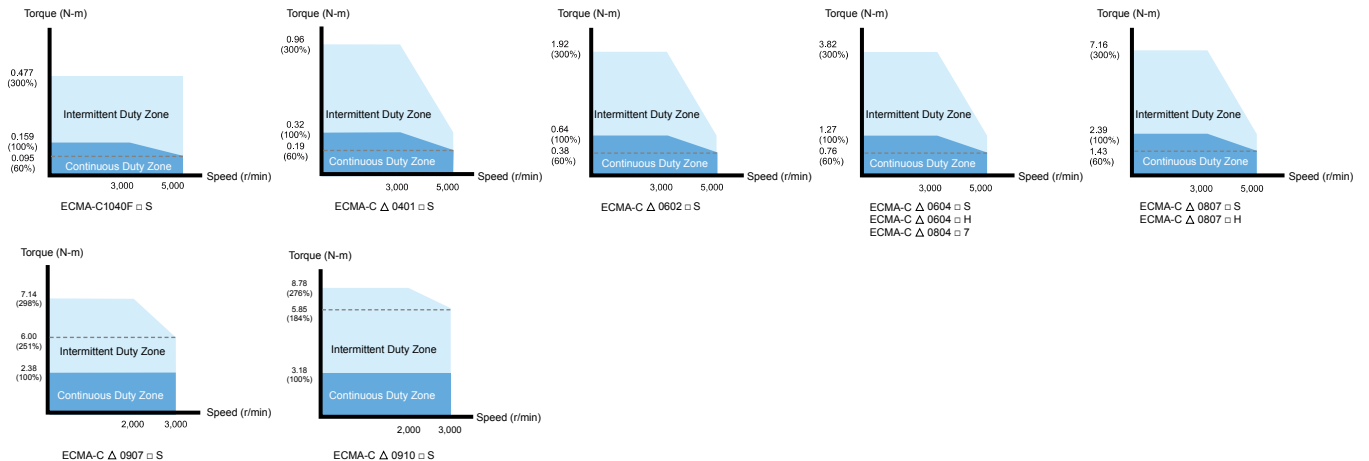


Units: mm

Model	C1040F □ S	C △ 0401 □ S	C △ 0602 □ S	C △ 0604 □ S	C △ 0604 □ H	C △ 0804 □ 7	C △ 0807 □ S	C △ 0807 □ H	C △ 0907 □ S	C △ 0910 □ S
LC	40	40	60	60	60	80	80	80	86	86
LZ	4.5	4.5	5.5	5.5	5.5	6.6	6.6	6.6	6.6	6.6
LA	46	46	70	70	70	90	90	90	100	100
S	8 (+0 -0.009)	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)	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)	79.1	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	20	27	27	27	27	32	32	30	30
LR	25	25	30	30	30	30	35	35	35	35
LE	2.5	2.5	3	3	3	3	3	3	3	3
LG	5	5	7.5	7.5	7.5	8	8	8	8	8
LW	16	16	20	20	20	20	25	25	20	20
RH	6.2	6.2	11	11	11	11	15.5	15.5	13	13
WK	3	3	5	5	5	5	6	6	5	5
W	3	3	5	5	5	5	6	6	5	5
T	3	3	5	5	5	5	6	6	5	5
TP	M3 Depth 8	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

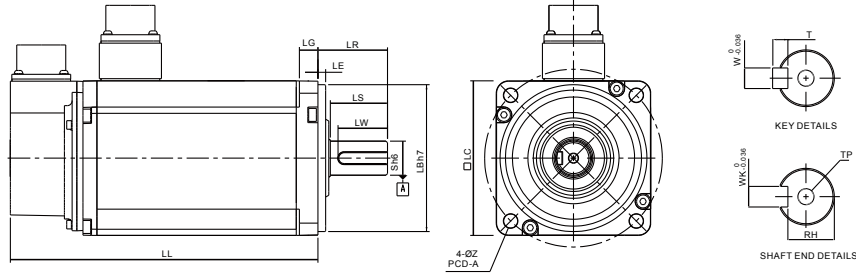
- NOTE**
- 1) Dimensions are in millimeters.
 - 2) Dimensions of the servo motors may be revised without prior notice.
 - 3) The boxes (□) in the model names are for optional configurations(keyway, brake and oil seal).
 - 4) The boxes (△) in the model names are for encoder resolution types. (△ =1: Incremental encoder, 20-bit; △ =2: Incremental encoder, 17-bit; △ =A: Absolute type)

Speed-Torque Curves (T-N Curves)



220V Series

Frame Size 100mm and 130mm

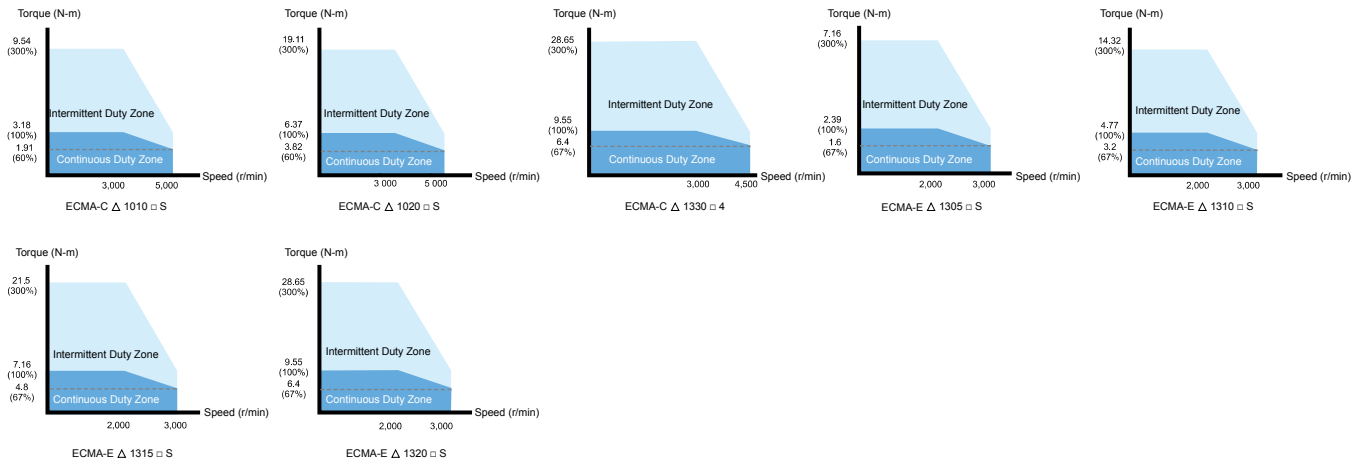


Units: mm

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	E Δ 1320 \square S
LC	100	100	130	130	130	130	130
LZ	9	9	9	9	9	9	9
LA	115	115	145	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 ($^{+0}_{-0.013}$)	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 ($^{+0}_{-0.035}$)	110 ($^{+0}_{-0.035}$)
LL (without brake)	153.3	199	187.5	147.5	147.5	167.5	187.5
LL (with brake)	192.5	226	216	183.5	183.5	202	216
LS	37	37	47	47	47	47	47
LR	45	45	55	55	55	55	55
LE	5	5	6	6	6	6	6
LG	12	12	11.5	11.5	11.5	11.5	11.5
LW	32	32	36	36	36	36	36
RH	18	18	20	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.
 - 2) Dimensions of the servo motors may be revised without prior notice.
 - 3) The boxes (\square) in the model names are for optional configurations(keyway, brake and oil seal).
 - 4) The boxes (Δ) in the model names are for encoder resolution types. (Δ =1: Incremental encoder, 20-bit; Δ =2: Incremental encoder, 17-bit; Δ =A: Absolute type)

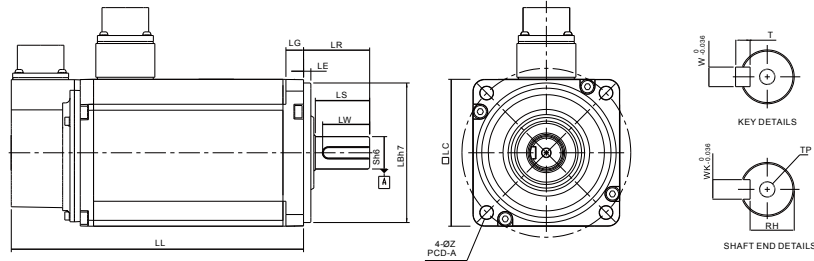
Speed-Torque Curves (T-N Curves)



Servo Motor Dimensions

220V Series

Frame Size 100mm and 130mm



Units: mm

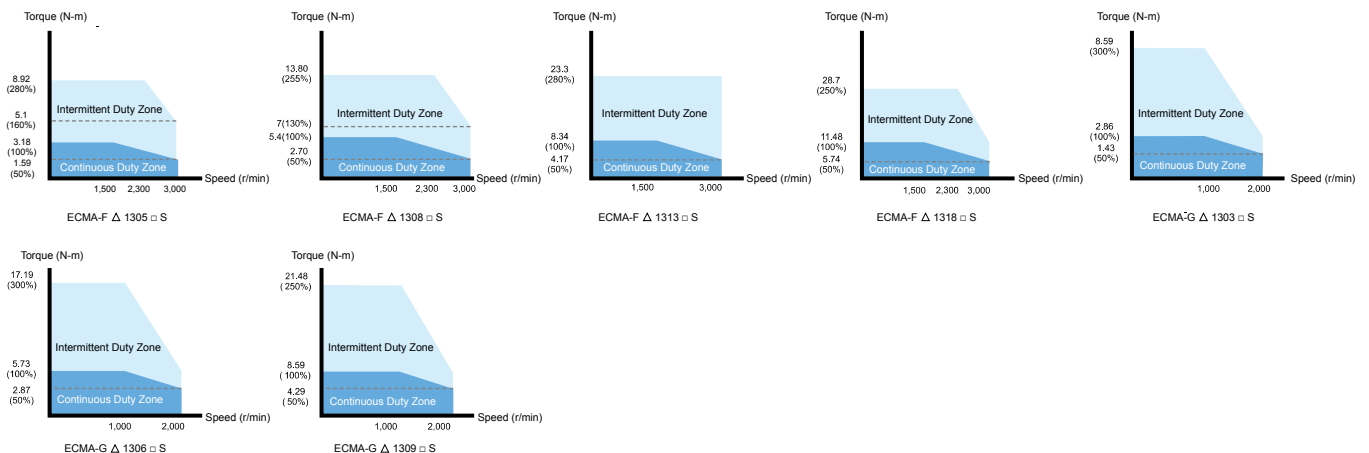
Model	F Δ 1305 \square S	F Δ 1308 \square S	F Δ 1313 \square S	F Δ 1318 \square S	G Δ 1303 \square S	G Δ 1306 \square S	G Δ 1309 \square S
LC	130	130	130	130	130	130	130
LZ	9	9	9	9	9	9	9
LA	145	145	145	145	145	145	145
S	22 (+0 / -0.013)	22 (+0 / -0.013)	22 (+0 / -0.013)	22 (+0 / -0.013)	22 (+0 / -0.013)	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)	139.5	147.5	187.5	202	147.5	147.5	163.5
LL (with brake)	168	183.5	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

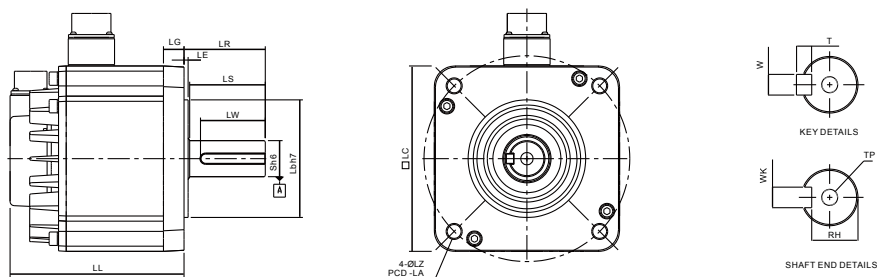
- 1) Dimensions are in millimeters.
- 2) Dimensions of the servo motors may be revised without prior notice.
- 3) The boxes (\square) in the model names are for optional configurations (keyway, brake and oil seal).
- 4) The boxes (Δ) in the model names are for encoder resolution types. (Δ =1: Incremental encoder, 20-bit; Δ =2: Incremental encoder, 17-bit; Δ =A: Absolute type)

Speed-Torque Curves (T-N Curves)



220V Series

Frame Size 180mm



Units: mm

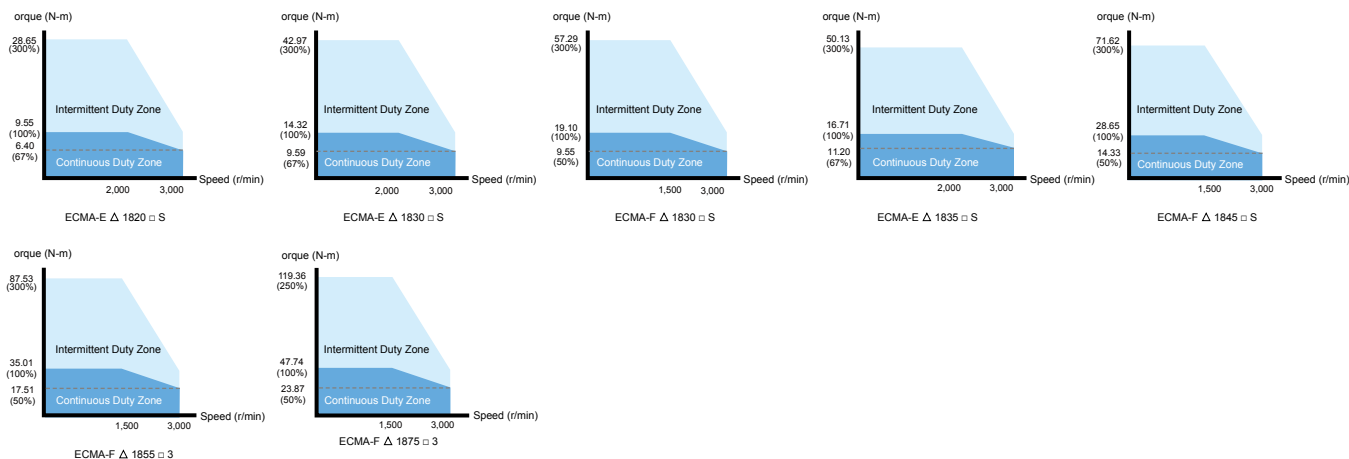
Model	E Δ 1820 \square S	E Δ 1830 \square S	E Δ 1835 \square S	F Δ 1845 \square S	F Δ 1855 \square 3	F Δ 1875 \square 3
LC	180	180	180	180	180	180
LZ	13.5	13.5	13.5	13.5	13.5	13.5
LA	200	200	200	200	200	200
S	35 ($^{+0}_{-0.016}$)	35 ($^{+0}_{-0.016}$)	35 ($^{+0}_{-0.016}$)	35 ($^{+0}_{-0.016}$)	42 ($^{+0}_{-0.016}$)	42 ($^{+0}_{-0.016}$)
LB	114.3 ($^{+0}_{-0.035}$)	114.3 ($^{+0}_{-0.035}$)	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	235.3	279.7	342.0
LL (with brake)	203.1	235.3	235.3	279.3	311.7	376.1
LS	73	73	73	73	108.5	108.5
LR	79	79	79	79	113	113
LE	4	4	4	4	4	4
LG	20	20	20	20	20	20
LW	63	63	63	63	90	90
RH	30	30	30	30	37	37
WK	10	10	10	10	12	12
W	10	10	10	10	12	12
T	8	8	8	8	8	8
TP	M12 Depth 25	M12 Depth 25	M12 Depth 25	M12 Depth 25	M16 Depth 32	M12 Depth 32



NOTE

- 1) Dimensions are in millimeters.
- 2) Dimensions of the servo motors may be revised without prior notice.
- 3) The boxes (\square) in the model names are for optional configurations(keyway, brake and oil seal).
- 4) The boxes (Δ) in the model names are for encoder resolution types. (Δ =1: Incremental encoder, 20-bit; Δ =2: Incremental encoder, 17-bit; Δ =A: Absolute type)

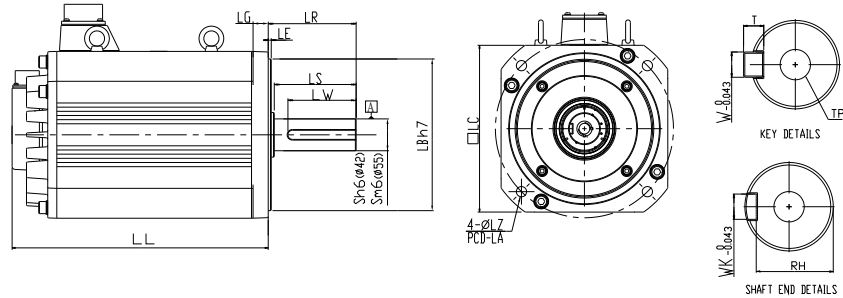
Speed-Torque Curves (T-N Curves)



Servo Motor Dimensions

220V Series

Frame Size 220mm and above



Units: mm

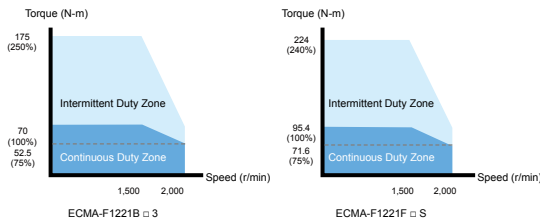
Model	F1221B □ 3	F1221F □ S
LC	220	220
LZ	13.5	13.5
LA	235	235
S	42 ⁺⁰ _{-0.016}	55 ^{+0.03} _{-0.011}
LB	200 ⁺⁰ _{-0.046}	200 ⁺⁰ _{-0.046}
LL (without brake)	371.4	453.4
LL (with brake)	434.4	513.4
LS	108	108
LR	116	116
LE	4	4
LG	20	20
LW	90	90
RH	37	49
WK	12	16
W	12	16
T	8	10
TP	M16 Depth 32	M20 Depth 40



NOTE

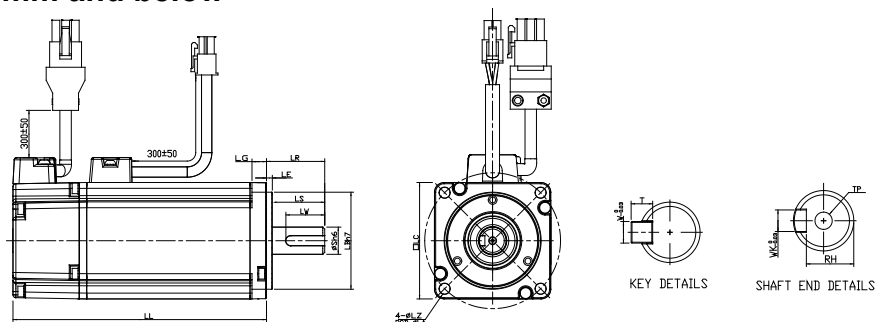
- 1) Dimensions are in millimeters.
- 2) Dimensions of the servo motors may be revised without prior notice.
- 3) The boxes (□) in the model names are for optional configurations (keyway, brake and oil seal).

Speed-Torque Curves (T-N Curves)



400V Series

Frame Size 80mm and below



Units: mm

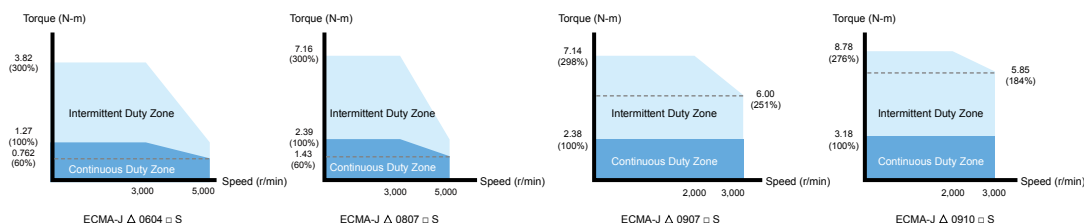
Model	J Δ 0604 \square S	J Δ 0807 \square S	J Δ 0907 \square S	J Δ 0910 \square S
LC	60	80	86	86
LZ	5.5	6.6	6.6	6.6
LA	70	90	100	100
S	14 ^(+0/-0.011)	19 ^(+0/-0.013)	16 ^(+0/-0.011)	16 ^(+0/-0.011)
LB	50 ^(+0/-0.025)	70 ^(+0/-0.030)	80 ^(+0/-0.030)	80 ^(+0/-0.030)
LL (without brake)	130.7	138.3	130.2	153.2
LL (with brake)	166.8	178	161.3	184.3
LS (without oil seal)	27	32	30	30
LS (with oil seal)	--	29.5	30	30
LR	30	35	35	35
LE	3	3	3	3
LG	7.5	8	8	8
LW	20	25	20	20
RH	11	15.5	13	13
WK	5	6	5	5
W	5	6	5	5
T	5	6	5	5
TP	M4 Depth 15	M6 Depth 20	M5 Depth 15	M5 Depth 15



NOTE

- 1) Dimensions are in millimeters.
- 2) Dimensions of the servo motors may be revised without prior notice.
- 3) The boxes (\square) in the model names are for optional configurations (keyway, brake and oil seal).
- 4) The boxes (Δ) in the model names are for encoder resolution types (Δ =1: Incremental encoder, 20-bit; Δ =2: Incremental encoder, 17-bit); Δ =A: Absolute type

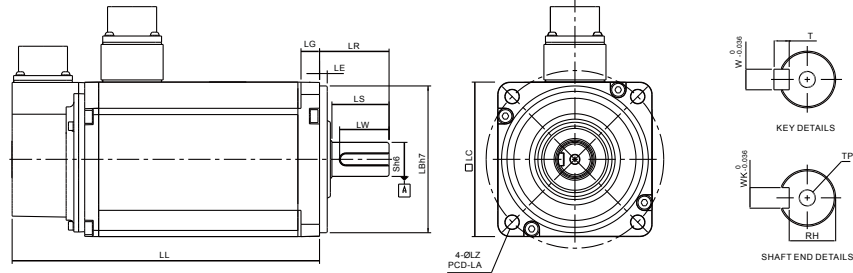
Speed-Torque Curves (T-N Curves)



Servo Motor Dimensions

400V Series

Frame Size 100mm and 130mm

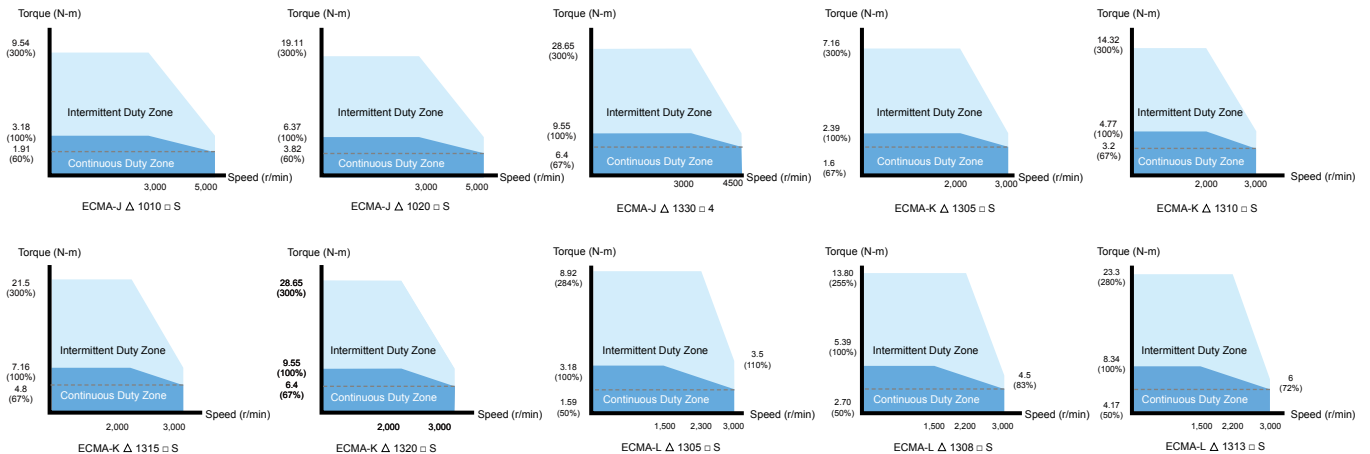


Units: mm

Model	J Δ 1010 \square S	J Δ 1020 \square S	J Δ 1330 \square 4	K Δ 1305 \square S	SK Δ 1310 \square S	SK Δ 1315 \square S	SK Δ 1320 \square S	L Δ 1305 \square S	L Δ 1308 \square S	L Δ 1313 \square S
LC	100	130	130	130	130	130	130	130	130	130
LZ	9	9	9	9	9	9	9	9	9	9
LA	115	115	145	145	145	145	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)	22 (+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)	110 (+0 / -0.035)	110 (+0 / -0.035)	110 (+0 / -0.035)	110 (+0 / -0.035)
LL (without brake)	153.3	199	187.5	139.5	147.5	167.5	187.5	147.5	163.5	194.5
LL (with brake)	192.5	226	216.0	168	183.5	202	216	168.0	181	223
LS	37	37	47	47	47	47	47	47	47	47
LR	45	45	55	55	55	55	55	55	55	55
LE	5	5	6	6	6	6	6	6	6	6
LG	12	12	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
LW	32	32	36	36	36	36	36	36	36	36
RH	18	18	20	18	18	18	18	18	18	18
WK	8	8	8	8	8	8	8	8	8	8
W	8	8	8	8	8	8	8	8	8	8
T	7	7	7	7	7	7	7	7	7	7
TP	MP6 Depth 20	MP6 Depth 20	MP6 Depth 20	MP6 Depth 20	MP6 Depth 20	MP6 Depth 20	MP6 Depth 20	M8 Depth 25	MP6 Depth 20	MP6 Depth 20

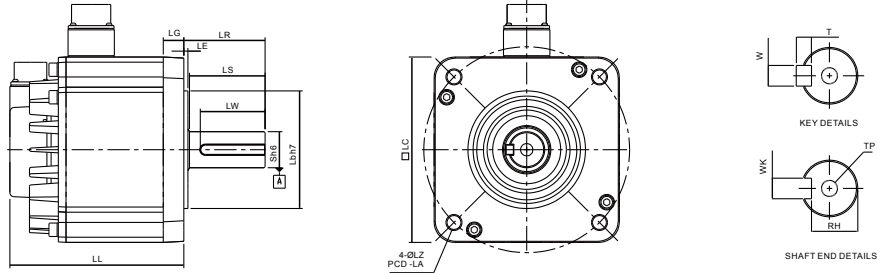
- NOTE**
- 1) Dimensions are in millimeters.
 - 2) Dimensions of the servo motors may be revised without prior notice.
 - 3) The boxes (\square) in the model names are for optional configurations (keyway, brake and oil seal).
 - 4) The boxes (Δ) in the model names are for encoder resolution types ($\Delta=1$: Incremental encoder, 20-bit; $\Delta=2$: Incremental encoder, 17-bit); $\Delta=A$: Absolute type

Speed-Torque Curves (T-N Curves)



400V Series

Frame Size 180mm and above



Units: mm

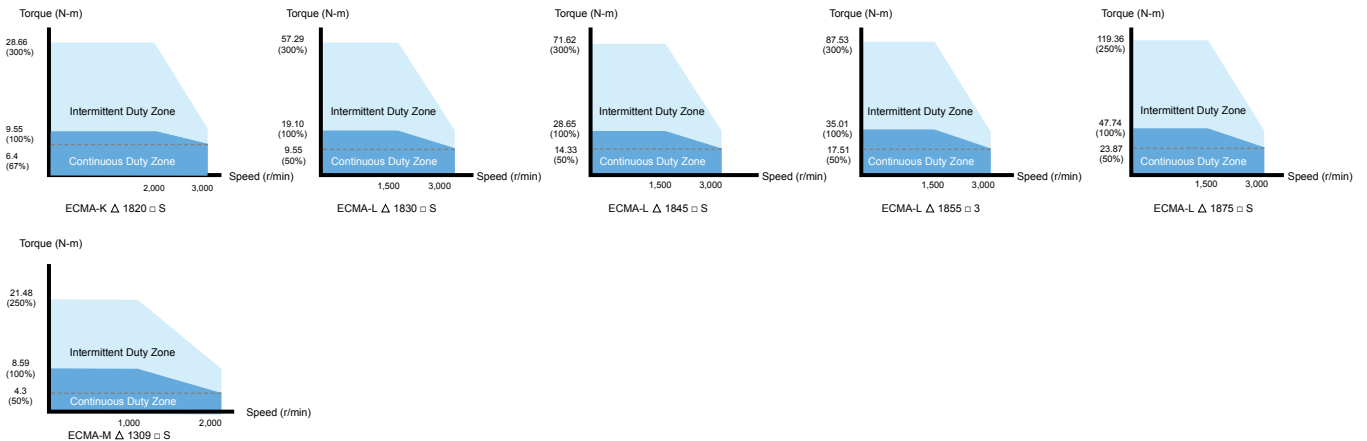
Model	K Δ 1820 \square S	L Δ 1830 \square S	L Δ 1845 \square S	L Δ 1855 \square 3	L Δ 1875 \square S	M Δ 1309 \square S
LC	180	180	180	180	180	130
LZ	13.5	13.5	13.5	13.5	13.5	9
LA	200	200	200	200	200	145
S	35 (+0 / -0.016)	35 (+0 / -0.016)	35 (+0 / -0.016)	42 (+0 / -0.016)	42 (+0 / -0.016)	22 (+0 / -0.013)
LB	114.3 (+0 / -0.035)	114.3 (+0 / -0.035)	114.3 (+0 / -0.035)	114.3 (+0 / -0.035)	114.3 (+0 / -0.035)	110 (+0 / -0.035)
LL (without brake)	169	202.1	235.3	279.7	342.0	163.5
LL (with brake)	203.1	235.3	279.3	311.7	376.1	198
LS	73	73	73	108.5	108.5	47
LR	79	79	79	113	113	55
LE	4	4	4	4	4	6
LG	20	20	20	20	20	11.5
LW	63	63	63	90	90	36
RH	30	30	30	37	37	18
WK	10	10	10	12	12	8
W	10	10	10	12	12	8
T	8	8	8	8	8	7
TP	M12 Depth 25	M12 Depth 25	M12 Depth 25	M16 Depth 32	M16 Depth 32	M6 Depth 20



NOTE

- 1) Dimensions are in millimeters.
- 2) Dimensions of the servo motors may be revised without prior notice.
- 3) The boxes (\square) in the model names are for optional configurations (keyway, brake and oil seal).
- 4) The boxes (Δ) in the model names are for encoder resolution types (Δ =1: Incremental encoder, 20-bit; Δ =2: Incremental encoder, 17-bit); Δ =A: Absolute type

Speed-Torque Curves (T-N Curves)



Part Names and Functions

● LED Display / Operation Panel / Charge LED

• LED Display

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

• Operation Panel

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

Function Keys:

MODE : Press this key to select/change mode

SHIFT : Press this key to shift cursor to the left

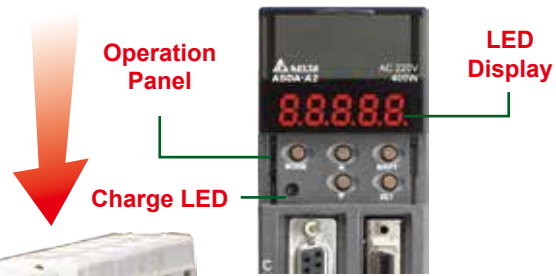
UP : Press this key to increase values on the display

DOWN : Press this key to decrease values on the display

SET : Press this key to store data

• 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.



● Full-Closed Loop Control Interface

- Used to connect linear scale and encoder for controlling A, B, Z phase signals.

● I/O Interface

- Used to connect Delta's DVP series PLC or other external controllers for controlling I/O signals.

● High-speed Communication Port

- 1-in/1-out communication ports offer easy serial connection.

● Motor Encoder Interface

- Used to connect the encoder of the servo motor

● Extension Digital Input Connection Port

- Used to connect a removable digital input terminal block. Max. 6 digital inputs can be added.

● Serial Communication Port

- Used to connect PLC, HMI, and other controllers for RS-485 / RS-232 serial communication.

● USB Connection Port

- Used to connect personal computers or notebooks.
- Ver 1.1 USB is equipped as standard.
- Direct connectivity to personal computers or notebooks, capable of accessing data through ASDA-Soft configuration software.
- Monitor speed upon software is up to 1Mbps.



● Internal & External Regenerative Resistor Terminal / Control Circuit Terminal / Main Circuit Terminal

● Internal & External Regenerative Resistor Terminal

1. When using an external resistor, connect it to P ⊕ and C , and ensure an open circuit between P ⊕ and D.
2. When using an internal resistor, ensure the circuit is closed between P ⊕ and D, and the circuit is open between P ⊕ and C. (Note: Please refer to the table of regenerative resistor specifications for the models with a built-in regenerative resistor.)
3. When using an external braking unit, connect it to P ⊕ and , and ensure an open circuit between P ⊕ and D, and P ⊕ and C.

● When using an external braking unit, connect it to P ⊕ and ⊖

● Control Circuit Terminal (L1C, L2C or DC24V, DC0V)

- 220V Series: L1C, L2C are used to connect 200 ~ 230Vac, 50/60Hz single-phase or three-phase power supply.
- 400V Series: DC24V, DC0V are used to connect 24Vdc ±10% power supply.

● Main Circuit Terminal (R, S, T)

- 220V Series: Used to connect 200~230Vac, 50/60Hz commercial power supply.
- 400V Series: Used to connect 380~480Vac, 50/60Hz commercial power supply.

● Servo Motor Output (U, V, W)

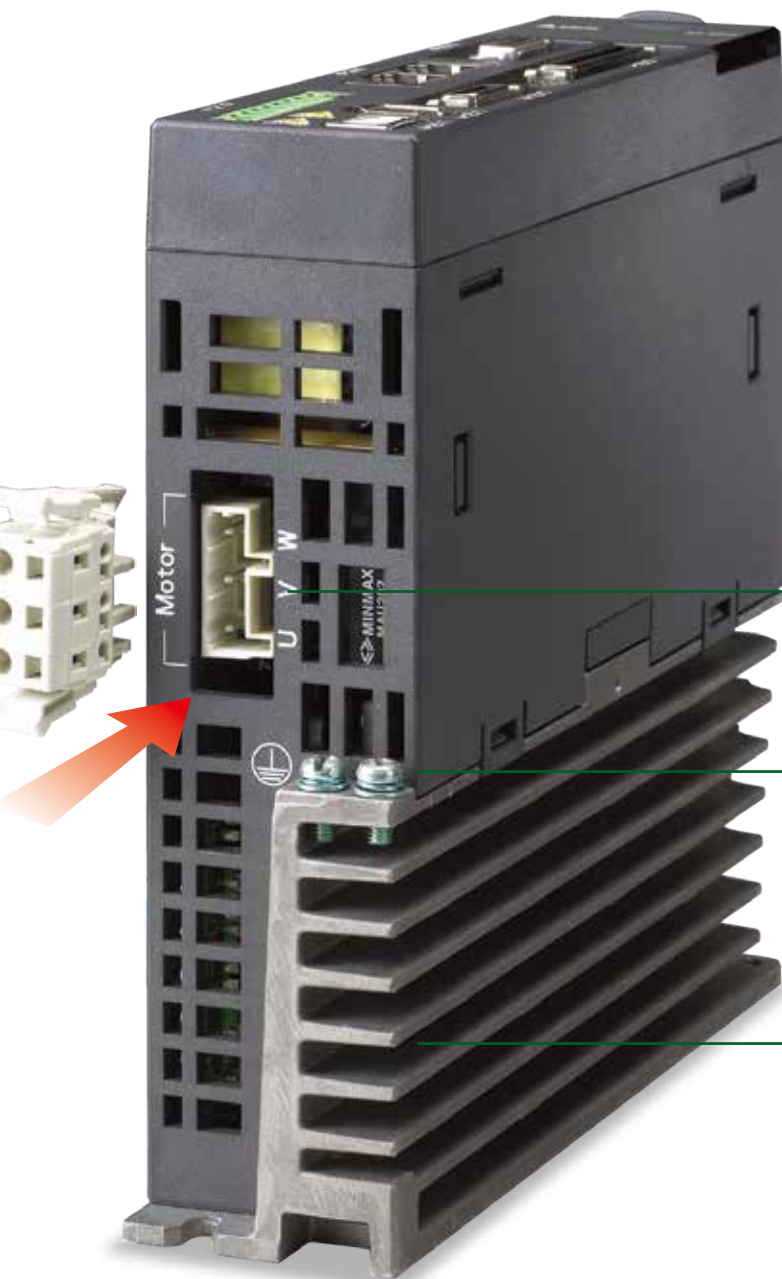
- Used to connect servo motor. Never connect the output terminal to main circuit power as the AC drive may be damaged beyond repair if incorrect cables are connected to the output terminals.

● Ground Terminal

- Used to connect grounding wire of power supply and servo motor.

● Heatsink

- Used to secure servo drive and for heat dissipation.

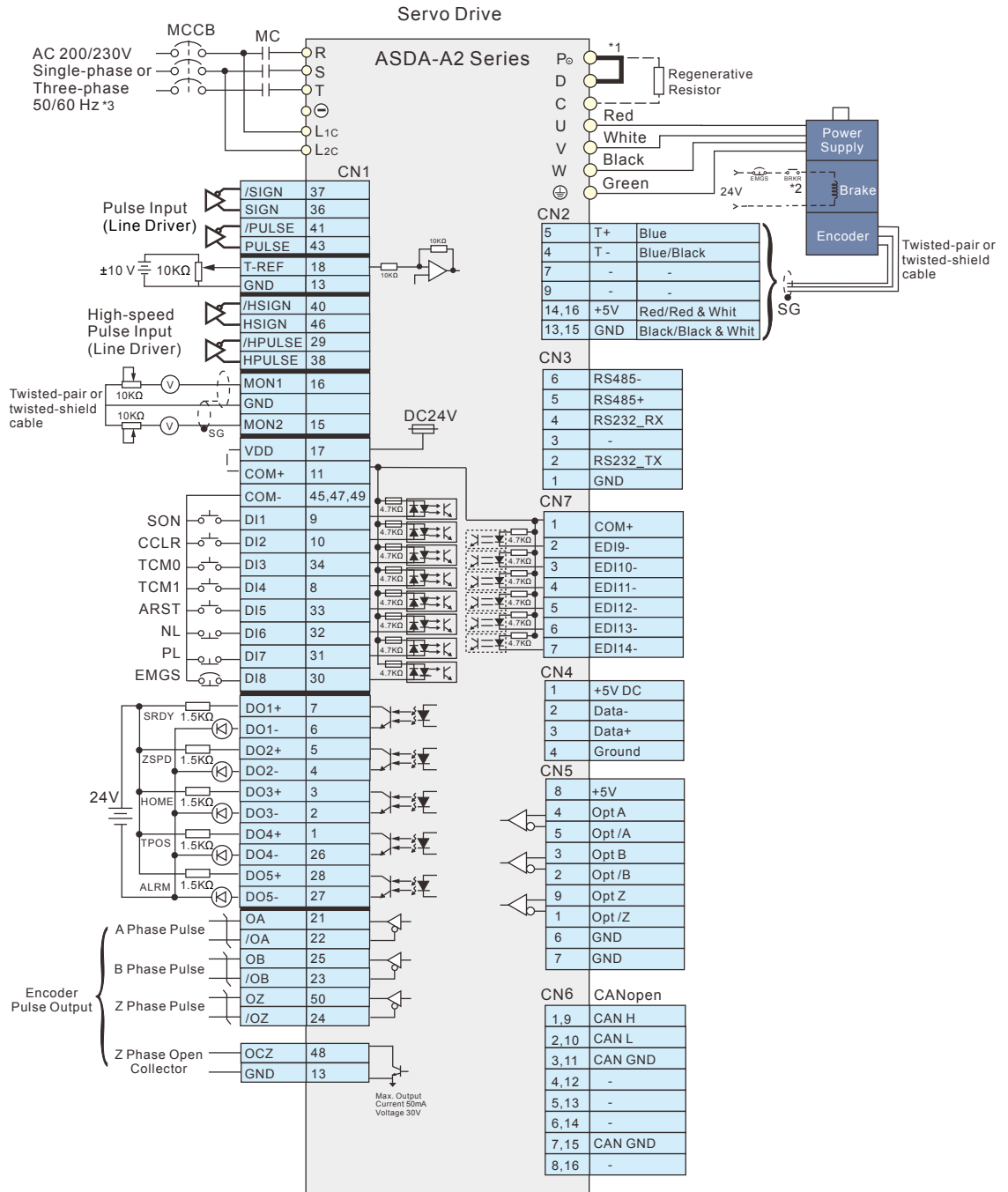
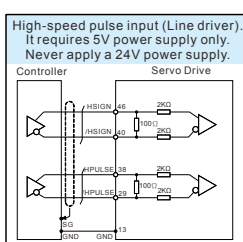
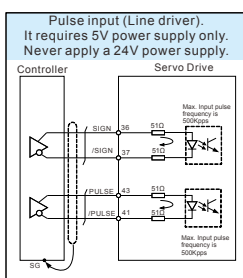
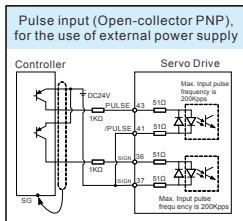
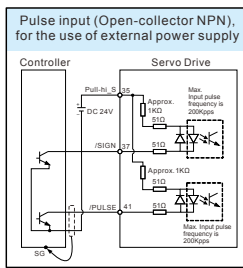
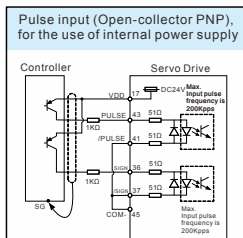
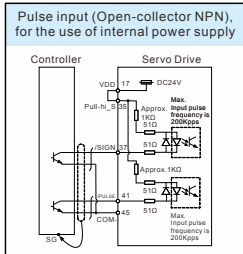


***Note: The figures are for illustration purposes only. Actual models may differ slightly in appearance to illustrations provided.**

Wiring

200V Series

Position (PT) Control Mode (for Pulse Command Input)

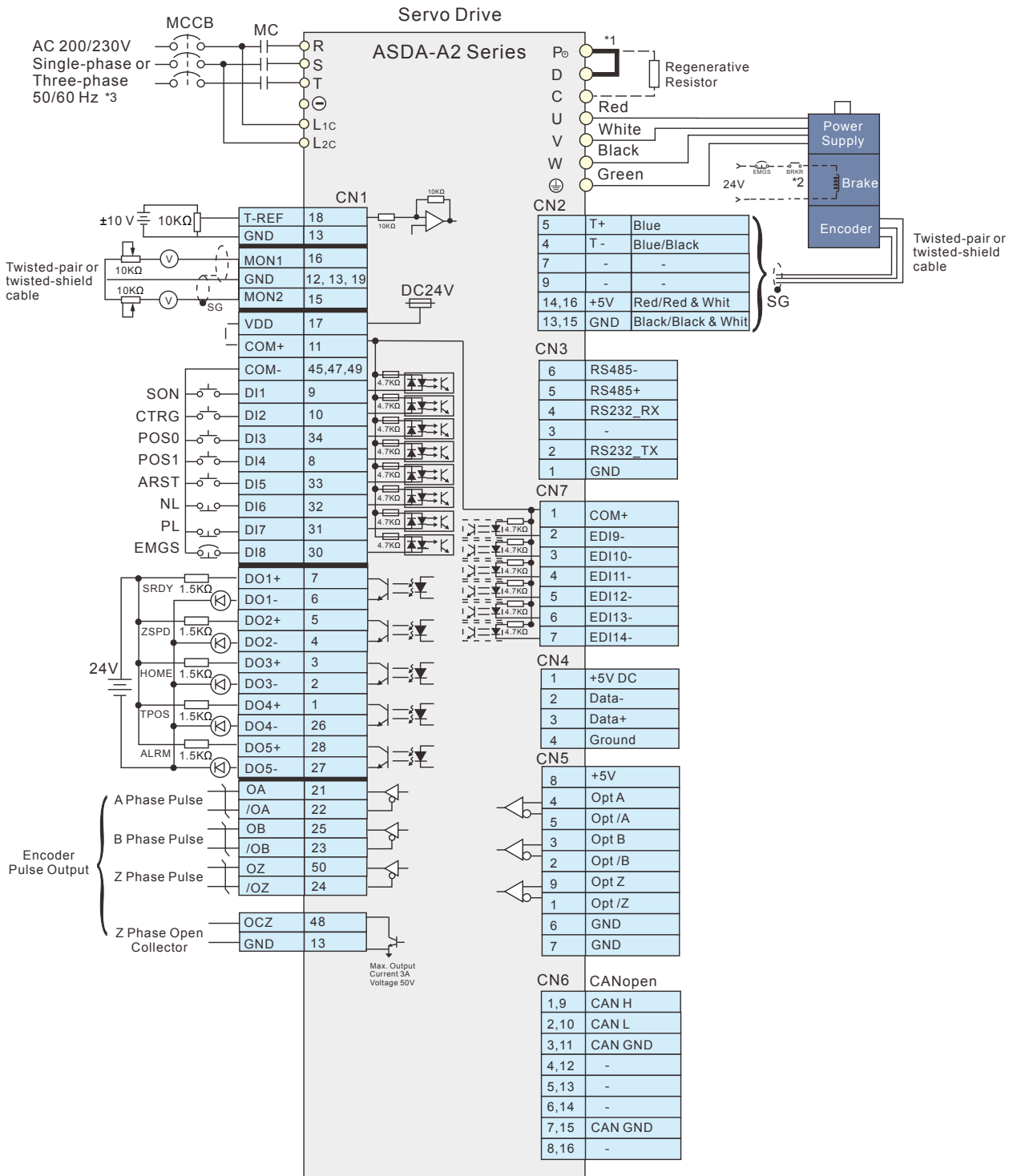


Please note:

- *1. 400W ~ 4.5kW servo drives provide a built-in regenerative resistor.
- *2. The brake oil has no polarity.
- *3. Single-phase connections are for servo drives 1.5kW and below only.

200V Series

Position (PR) Control Mode (for Internal Procedure Control)



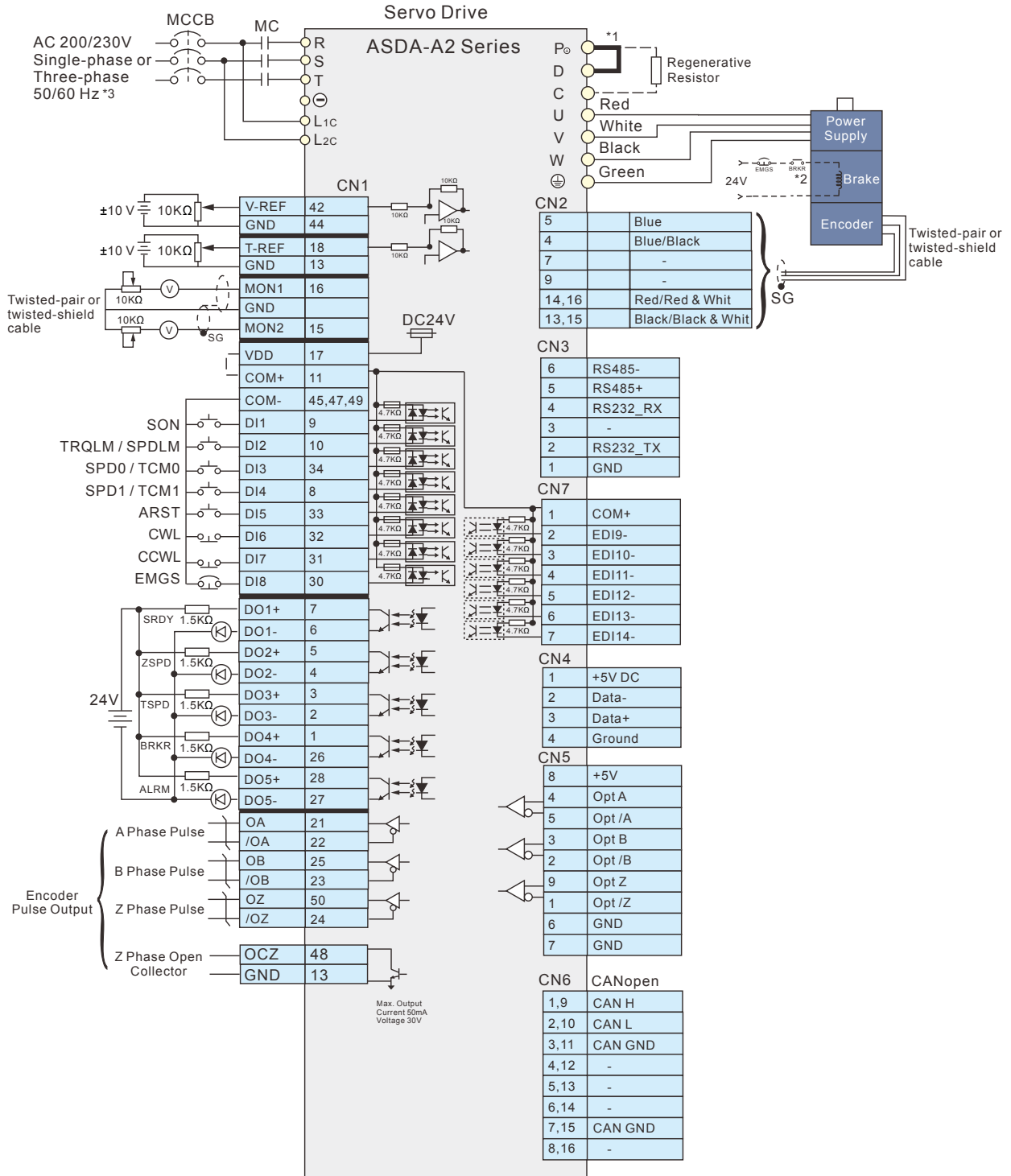
Please note:

- *1. 400W ~ 4.5kW servo drives provide a built-in regenerative resistor.
- *2. The brake oil has no polarity.
- *3. Single-phase connections are for servo drives 1.5kW and below only.

Wiring

200V Series

Speed (S), Torque (T) Control Mode (for Analog Voltage Input and Internal Parameter Setting)

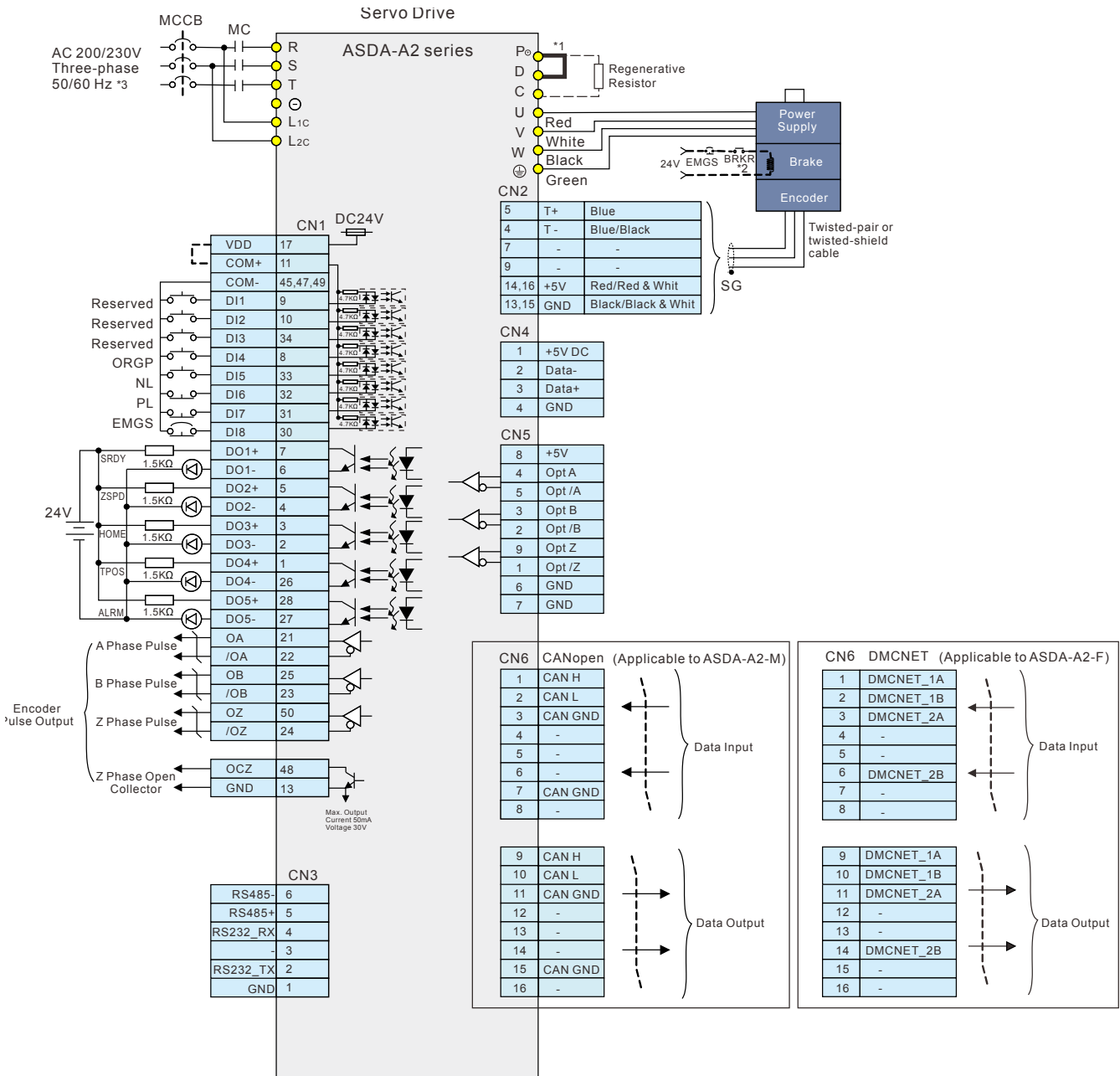


Please note:

- *1. 400W ~ 4.5kW servo drives provide a built-in regenerative resistor.
- *2. The brake oil has no polarity.
- *3. Single-phase connections are for servo drives 1.5kW and below only.

200V Series

CANopen Communication Mode



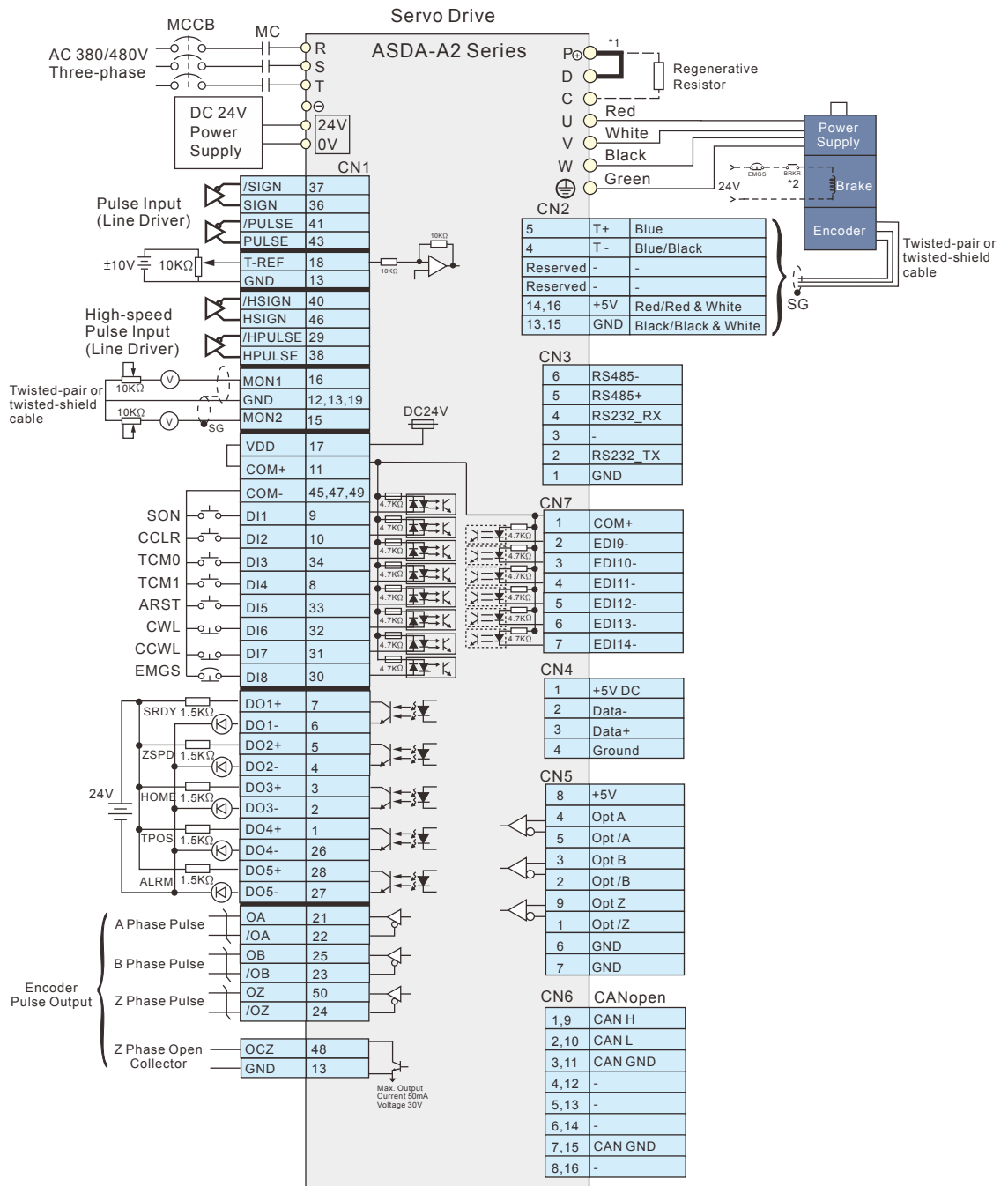
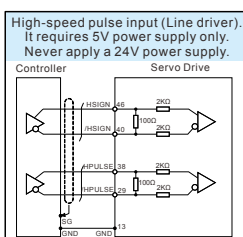
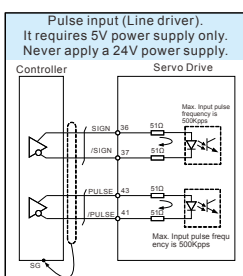
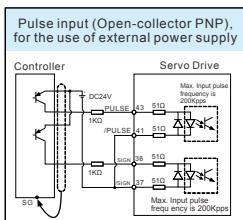
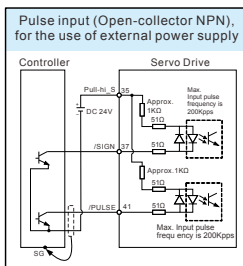
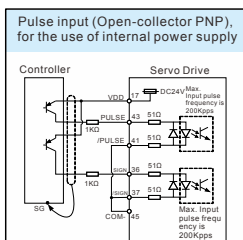
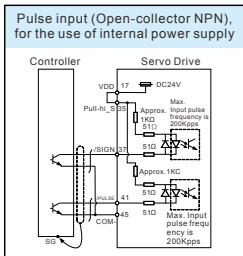
Please note:

- *1. 400W ~ 4.5kW servo drives provide a built-in regenerative resistor.
- *2. The brake oil has no polarity.
- *3. Single-phase connections are for servo drives 1.5kW and below only.

Wiring

400V Series

Position (PT) Control Mode (for Pulse Command Input)



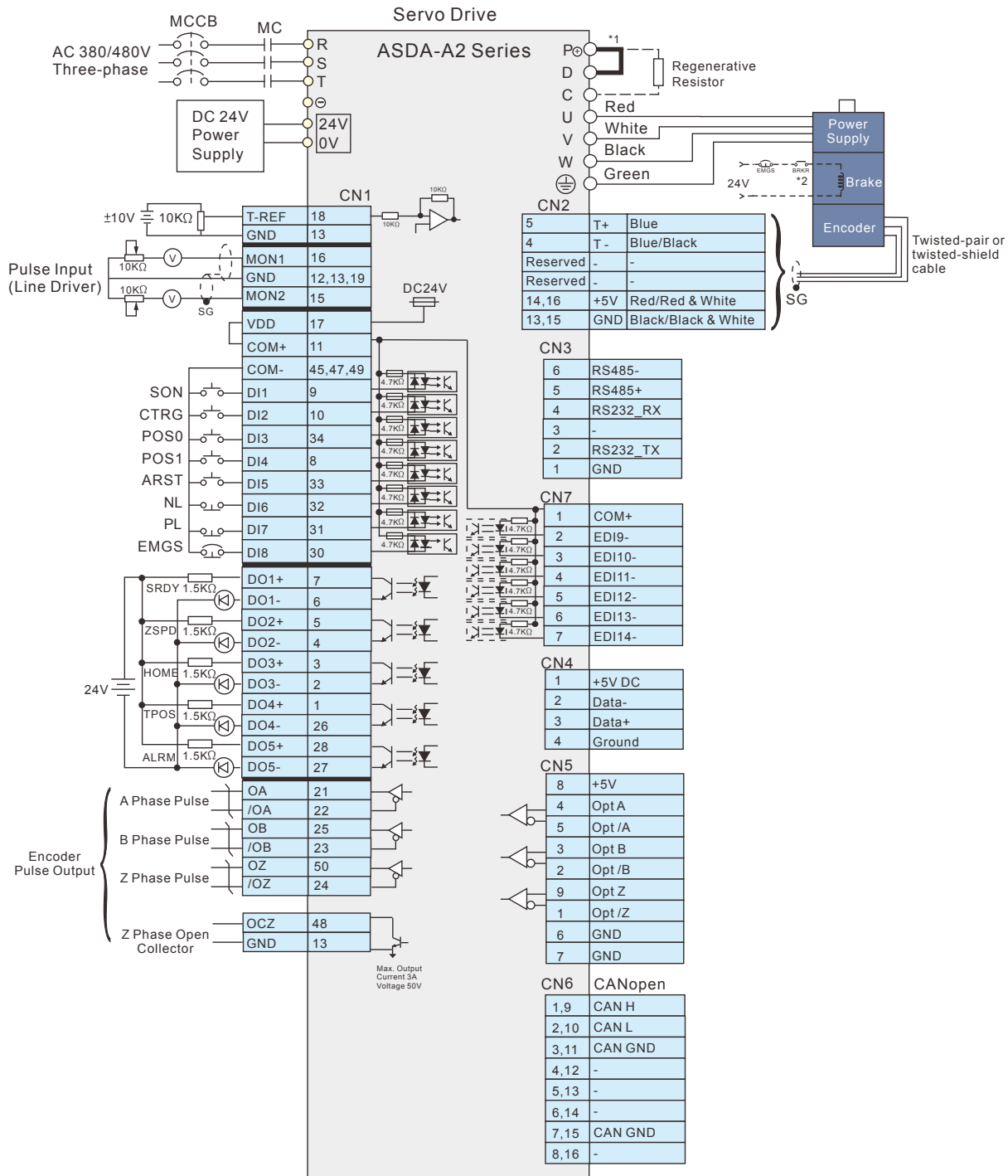
Please note:

*1 400W ~ 4.5kW servo drives provide a built-in regenerative resistor.

*2 The brake oil has no polarity.

400V Series

Position (PR) Control Mode (for Internal Procedure Control)



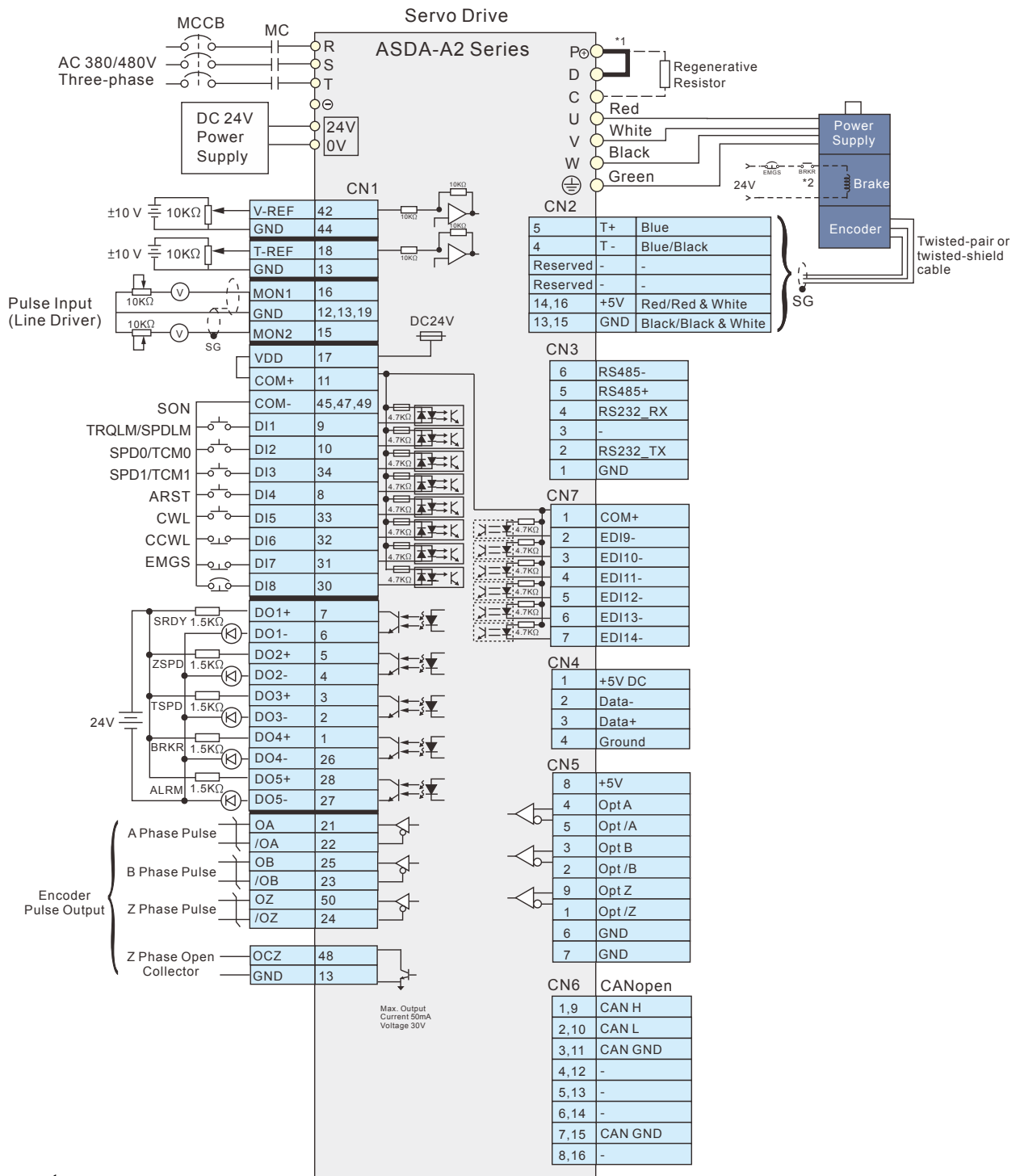
Please note:

- *1 400W ~ 4.5kW servo drives provide a built-in regenerative resistor.
- *2 The brake oil has no polarity.

Wiring

400V Series

Speed (S), Torque (T) Control Mode (for Analog Voltage Input and Internal Parameter Setting)



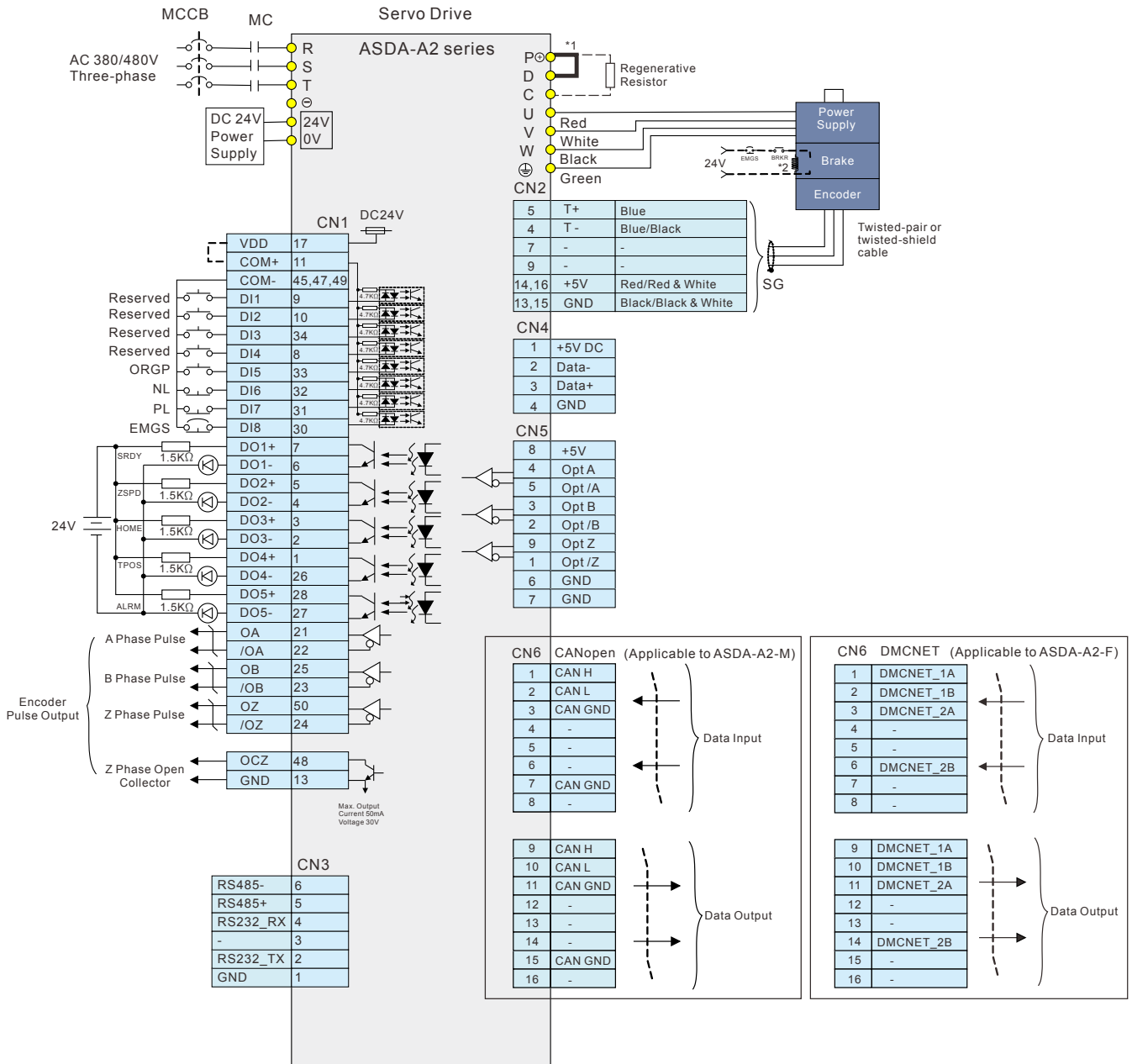
Please note:

*1 400W ~ 4.5kW servo drives provide a built-in regenerative resistor.

*2 The brake oil has no polarity.

400V Series

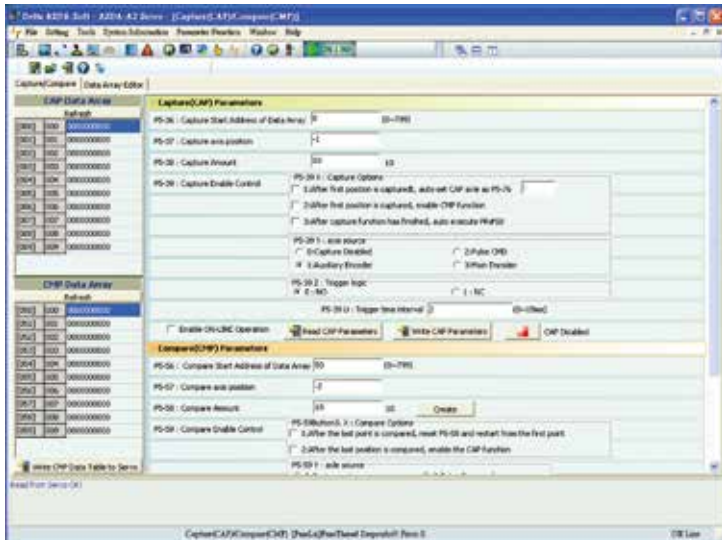
CANopen Communication Mode (for ASDA-A2-M Series)



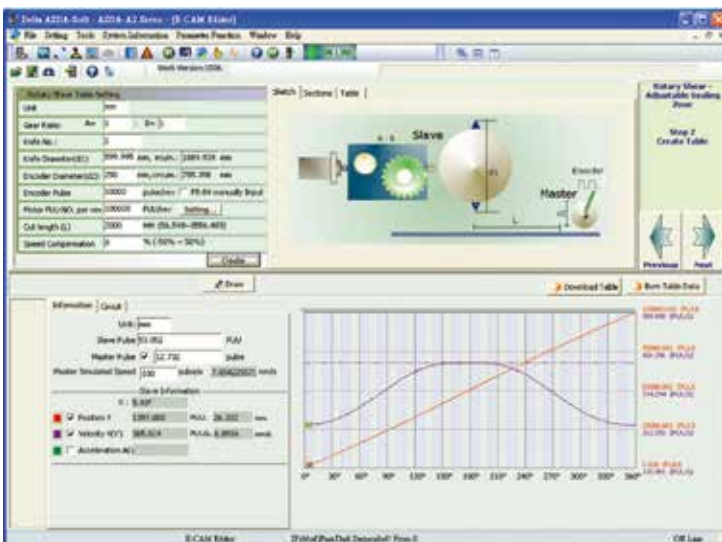
Please note:

- *1 400W ~ 4.5kW servo drives provide a built-in regenerative resistor.
- *2 The brake oil has no polarity.

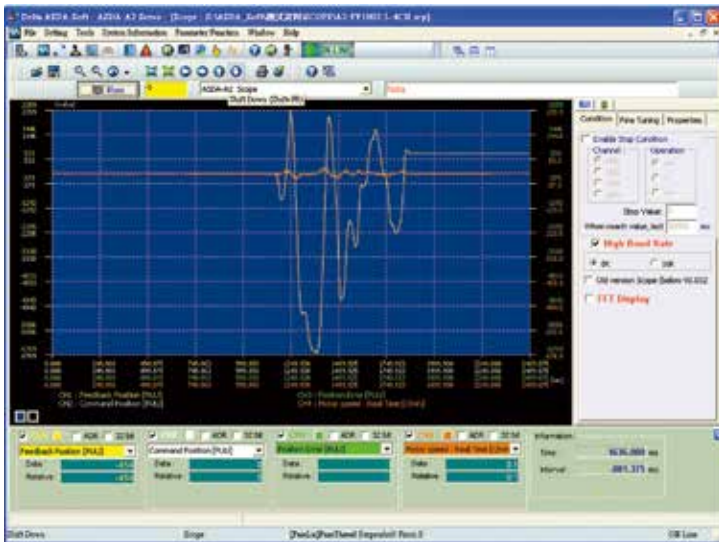
ASDA-Soft Configuration Software



- Strong CAPTURE and COMPARE functions for position latch and detection help you complete system configuration quickly.



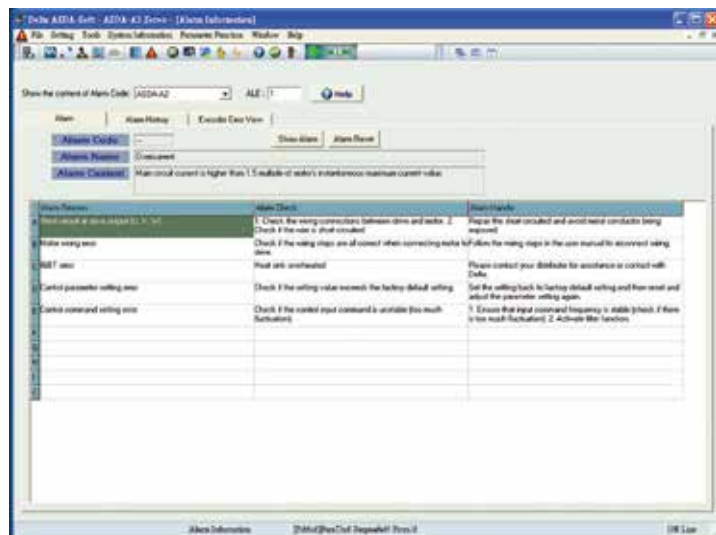
- User-friendly E-Cam editing interface is provided for designing E-Cam outlines and curves freely. In addition, quick settings for flying shear and rotary cut applications are offered.



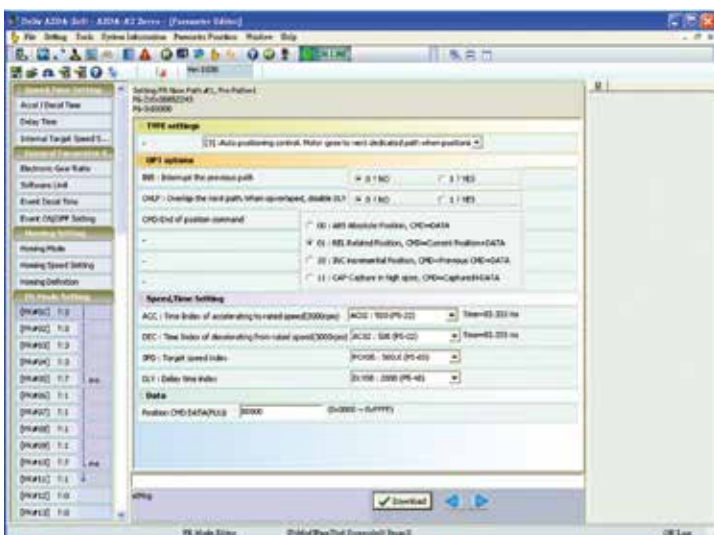
- Versatile on-line monitoring function, similar to a digital oscilloscope is able to quickly record the status and data of each axis. Real-time monitoring is easy.



Delta Electronics, Inc. All rights reserved



- Convenient alarm display function is capable of troubleshooting the system easily and recommending timely corrective actions.



- Easy-to-use editing interface is designed for new and enhanced PR control mode. Homing, point-to-point and other motion control functions for multi-axis positioning control are easily achieved.

Optional Accessories

● Quick Connectors

- Used for 100W to 300W servo drives.
- One operating lever is provided for wire to terminal block insertion.



● Power Cables

- 3m and 5m standard cables are available.
- Customized service is offered to meet the needs of customers.
- Two types are selectable: with brake and without brake.



● Encoder Cables

- 3m and 5m standard cables are available.
- Customized service is offered to meet the needs of customers.



● RS-232 Communication Cables

- Connects ASDA-A2 to PLC, HMI and other controllers via RS-232 communication.
- Standard cable length is 3m



● CN1 I/O connector

- Delta Part Number: ASD-IF-SC5020



● Terminal Block Modules

- Easy installation and wiring.
- 0.5m connection cable is provided. Easy to reduce the space required.
- Easy to expand system's I/O configuration.

● Regenerative Resistors

- For selecting a regenerative resistor, please refer to a table of regenerative resistor specifications on page 74.

● USB Communication Cables (for PC)

- USB Communication Cables (for PC)
- USB1.1 is equipped as standard.



● CANopen Accessories

- Delta's TAP-CN03 distribution box connects ASDA-A2 to Delta's PLC CAN Master
- CANopen communication cable is provided



● RS-485 Connectors




- Used to connect multiple ASDA-A2 series products by RS-485 interface through Modbus serial communication.



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

Servo Drive Specifications




220V Series

ASDA-A2R Series		100 W	200 W	400 W	750 W	1 kW	1.5 kW	2 kW	3 kW	4.5 kW	5.5 kW	7.5 kW	11 kW	15kW		
		01	02	04	07	10	15	20	30	45	55	75	1B	1F		
Power supply	Phase / Voltage	Three-phase / Single-phase 220V _{AC}						3-phase 220V _{AC}								
	Permissible Voltage Range	1-phase / 3-phase 200 ~ 230V _{AC} , -15% ~ 10%						3-phase 200 ~ 230V _{AC} , -15% ~ 10%								
	Input Current(3PH) (Units: Arms)	0.39	1.11	1.86	3.66	4.68	5.9	8.76	9.83	17.5	19.4	26.3	48	63		
	Input Current(1PH) (Units: Arms)	0.69	1.92	3.22	6.78	8.88	10.3	-	-	-	-	-	-	-		
	Continuous Output Current (Units: Arms)	0.9	1.55	2.6	5.1	7.3	8.3	13.4	19.4	32.5	40	47.5	54.4	70		
Cooling System		Natural Air Circulation						Fan Cooling								
Encoder Resolution / Feedback Resolution		Incremental encoder: 20-bit ; Absolute encoder: 17-bit														
Control of Main Circuit		SVPWM(Space Vector Pulse Width Modulation) Control														
Tuning Modes		Auto / Manual														
Regenerative Resistor		None			Built-in						External					
Position Control Mode	Max. Input Pulse Frequency <small>(Only for Non-DMCNET mode)</small>	Max. 500Kpps / 4Mpps (Line driver), Max. 200Kpps (Open collector)														
	Pulse Type <small>(Only for Non-DMCNET mode)</small>	Pulse + Direction, A phase + B phase, CCW pulse + CW pulse														
	Command Source	External pulse train (PT mode) <small>(Only for Non-DMCNET mode)</small> / Internal parameters (PR mode)														
	Smoothing Strategy	Low-pass and P-curve filter														
	Electronic Gear	Electronic gear N/M multiple N: 1~32767, M: 1:32767 (1/50<N/M<25600)														
	Torque Limit Operation	Set by parameters														
	Feed Forward Compensation	Set by parameters														
Speed Control Mode	Analog Input Command <small>(Only for Non-DMCNET mode)</small>	Voltage Range		0 ~ ±10 V _{DC}												
		Input Resistance		10KΩ												
		Time Constant		2.2 μs												
	Speed Control Range ¹	1: 5000						1: 3000				1: 2000				
	Command Source	External analog signal <small>(Only for Non-DMCNET mode)</small> / Internal parameters														
	Smoothing Strategy	Low-pass and S-curve filter														
	Torque Limit Operation	Set by parameters or via analog input <small>(Only for Non-DMCNET mode)</small>														
	Frequency Response Characteristic	Maximum 1kHz														
Speed Accuracy ² <small>(At rated rotation speed)</small>	0.01% or less at 0 to 100% load fluctuation															
	0.01% or less at ±10% power fluctuation															
	0.01% or less at 0°C to 50°C ambient temperature fluctuation															
	0.01% or less at 0°C to 50°C ambient temperature fluctuation															
Torque Control Mode	Analog Input Command <small>(Only for Non-DMCNET mode)</small>	Voltage Range		0 ~ ±10 V _{DC}												
		Input Resistance		10KΩ												
		Time Constant		2.2 μs												
	Command Source	External analog signal <small>(Only for Non-DMCNET mode)</small> / Internal parameters														
	Smoothing Strategy	Low-pass filter														
Speed Limit Operation	Set by parameters or via analog input <small>(Only for Non-DMCNET mode)</small>															
Analog Monitor Output		Monitor signal can set by parameters (Output voltage range: ±8V)														
Digital Inputs / Outputs	Inputs	Servo on, Reset, Gain switching, Pulse clear, Zero speed CLAMP, Command input reverse control, Command triggered, Speed/Torque limit enabled, Position command selection, Motor stop, Speed position selection, Position / Speed mode switching, Speed / Torque mode switching, Torque / Position mode switching, PT / PR command switching, Emergency stop, Forward / Reverse inhibit limit, Reference "Home" sensor, Forward / Reverse operation torque limit, Move to "Home", Electronic Cam (E-Cam), Forward / Reverse JOG input, Event trigger PR command, Electronic gear ratio (Numerator) selection and Pulse inhibit input														
	Outputs	Encoder signal output (A, B, Z Line Driver and Z Open Collector) Servo ready, Servo on, At Zero speed, At Speed reached, At Positioning completed, At Torques limit, Servo alarm (Servo fault) activated, Electromagnetic brake control, Homing completed, Output overload warning, Servo warning activated, Position command overflow, Forward / Reverse software limit, Internal position command completed, Capture operation completed output., Motion control completed output., Master position of E-Cam (Electronic Cam)														
Protective Functions		Overcurrent, Overvoltage, Undervoltage, Motor overheated, Regeneration error, Overload, Overspeed, Abnormal pulse control command, Excessive deviation, Encoder error, Adjustment error, Emergency stop activated, Reverse/ Forward limit switch error, Position excessive deviation of full-close control loop, Serial communication error, Input power phase loss, Serial communication time out, short circuit protection of U, V, W, and CN1, CN2, CN3 terminals														
Communication Interface		RS-232 / RS-485 / CANopen / USB / DMCNET														
Environment	Installation Site	Indoor location (free from direct sunlight), no corrosive liquid and gas (far away from oil mist, flammable gas, dust)														
	Altitude	Altitude 1000m or lower above sea level														
	Atmospheric Pressure	86kPa ~ 106kPa														
	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	0 ~ 90% RH (non-condensing)														
	Vibration	9.80665 m/s ² (1G) less than 20Hz, 5.88 m/s ² (0.6G) 20 to 50Hz														
	IP Rating	IP20														
Power System	TN System ³															
Approvals		IEC/EN 61800-5-1, UL 508C, C-tick												  		

Footnote:

- ¹ Rated rotation speed: When full load, speed ratio is defined as the minimum speed (the motor will not pause).
- ² When command is rated rotation speed, the speed fluctuation rate is defined as: (Empty load rotation speed / Full load rotation speed) / Rated rotation speed
- ³ TN system: A power distribution system having one point directly earthed, the exposed conductive parts of the installation being connected to that points by protective earth conductor.

400V Series

ASDA-A2 Series		750 W	1kW	1.5kW	2kW	3kW	4.5kW	5.5kW	7.5kW
		07	10	15	20	30	45	55	75
Control Power	Input Voltage	24V _{DC} , ±10%							
	Input Current	0.89A			1.18A			1.66A	
	Input Power	21.4W			28.2W			39.85W	
Main Power	Permissible Voltage Range	3-phase 380 ~ 480V _{AC} , ±10%							
	Input Current (Units: Arms)	2.22	3.02	4.24	5.65	8.01	11.9	14.1	17.27
	Continuous Output Current (Units: Arms)	3.07	3.52	5.02	6.66	11.9	20	22.37	30
Cooling System		Fan Cooling							
Encoder Resolution / Feedback Resolution		Incremental encoder: 20-bit ; Absolute encoder: 17-bit							
Control of Main Circuit		SVPWM(Space Vector Pulse Width Modulation) Control							
Tuning Modes		Auto / Manual							
Regenerative Resistor		Built-in				External			
Position Control Mode	Max. Input Pulse Frequency(Only for Non-DMCNET mode)	Max. 500Kpps / 4Mpps (Line driver), Max. 200Kpps (Open collector)							
	Pulse Type (Only for Non-DMCNET mode)	Pulse + Direction, A phase + B phase, CCW pulse + CW pulse							
	Command Source	External pulse train (Only for Non-DMCNET mode)/Internal parameters							
	Smoothing Strategy	Low-pass and P-curve filter							
	Electronic Gear	Electronic gear N/M multiple N: 1~32767, M: 1:32767 (1/50<N/M<25600)							
	Torque Limit Operation	Set by parameters							
	Feed Forward Compensation	Set by parameters							
Speed Control Mode	Analog Input Command (Only for Non-DMCNET mode)	Voltage Range		0 ~ ±10 V _{DC}					
		Input Resistance		10KΩ					
		Time Constant		2.2 μs					
	Speed Control Range ¹	1: 5000				1: 3000			
	Command Source	External analog signal (Only for Non-DMCNET mode) / Internal parameters							
	Smoothing Strategy	Low-pass and S-curve filter							
	Torque Limit Operation	Set by parameter or via analog input (Only for Non-DMCNET mode)							
Frequency Response Characteristic	Speed Accuracy ²		Maximum 1kHz						
			0.01% or less at 0 to 100% load fluctuation						
			0.01% or less at ±10% power fluctuation						
			0.01% or less at 0°C to 50°C ambient temperature fluctuation						
Torque Control Mode	Analog Input Command (Only for Non-DMCNET mode)	Voltage Range		0 ~ ±10 V _{DC}					
		Input Resistance		10KΩ					
		Time Constant		2.2 μs					
	Command Source	External analog signal (Only for Non-DMCNET mode) / Internal parameters							
Speed Limit Operation	Smoothing Strategy		Low-pass filter						
	Speed Limit Operation		Set by parameter or via analog input (Only for Non-DMCNET mode)						
Analog Monitor Output		Monitor signal can set by parameters (Output voltage range: ±8V)							
Digital Inputs / Outputs	Inputs	Servo on, Reset, Gain switching, Pulse clear, Zero speed CLAMP, Command input reverse control, Command triggered, Speed/Torque limit enabled, Position command selection, Motor stop, Speed position selection, Position / Speed mode switching, Speed / Torque mode switching, Torque / Position mode switching, PT / PR command switching, Emergency stop, Forward / Reverse inhibit limit, Reference "Home" sensor, Forward / Reverse operation torque limit, Move to "Home", Electronic cam, Forward / Reverse JOG input, Event trigger PR command, Electronic gear ratio (Numerator) selection and Pulse inhibit input							
	Outputs	* Please note that the above digital signals and inputs are available only for Non-DMCNET mode. In DMCNET mode, it is recommended to write digital inputs into the servo drives through DMCNET communication, and the digital inputs should be used for Emergency Stop, Forward / Reverse Inhibit limit and Reference "Home" sensor only. Encoder signal output (A, B, Z Line Driver and Z Open Collector) Servo ready, Servo on, At Zero speed, At Speed reached, At Positioning completed, At Torques limit, Servo alarm (Servo fault) activated, Electromagnetic brake control, Homing completed, Output overload warning, Servo warning activated, Position command overflow, Forward / Reverse software limit, Internal position command completed, Capture operation completed output, Motion control completed output, Master position of E-Cam (Electronic Cam)							
Protective Functions		Overcurrent, Overvoltage, Undervoltage, Motor overheated, Regeneration error, Overload, Overspeed, Abnormal pulse control command, Excessive deviation, Encoder error, Adjustment error, Emergency stop activated, Reverse/ Forward limit switch error, Position excessive deviation of full-close control loop, Serial communication error, Input power phase loss, Serial communication time out, short circuit protection of U, V, W, and CN1, CN2, CN3 terminals							
Communication Interface		RS-232 / RS-485 / CANopen / USB / DMCNET							
Environment	Installation Site	Indoor location (free from direct sunlight), no corrosive liquid and gas (far away from oil mist, flammable gas, dust)							
	Altitude	Altitude 1000m or lower above sea level							
	Atmospheric Pressure	86kPa ~ 106kPa							
	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	0 ~ 90% RH (non-condensing)							
	Vibration	9.80665 m/s ² (1G) less than 20Hz, 5.88 m/s ² (0.6G) 20 to 50Hz							
	IP Rating	IP20							
Power System	TN System ³								
Approvals	IEC/EN 61800-5-1, UL 508C, C-tick   								

Footnote:

- ¹ Rated rotation speed: When full load, speed ratio is defined as the minimum speed (the motor will not pause).
- ² When command is rated rotation speed, the speed fluctuation rate is defined as: (Empty load rotation speed / Full load rotation speed) / Rated rotation speed
- ³ TN system: A power distribution system having one point directly earthed, the exposed conductive parts of the installation being connected to that points by protective earth conductor.

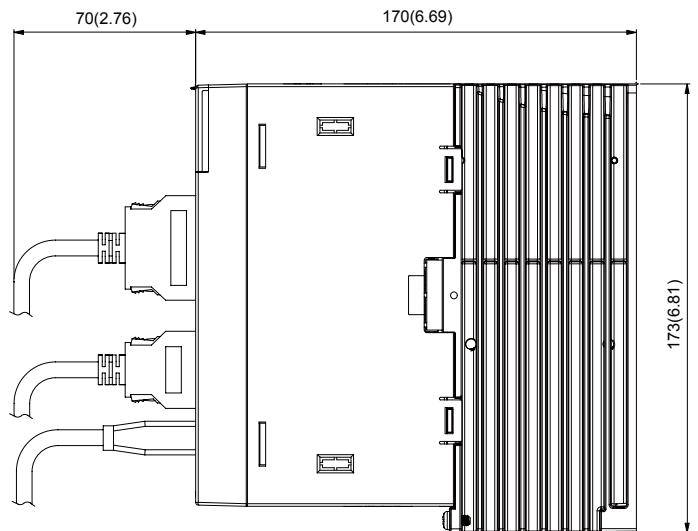
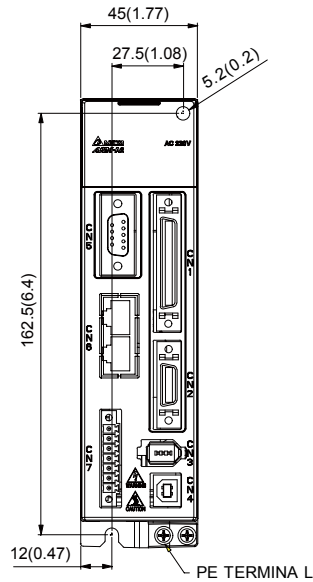


Servo Drive Dimensions Units: mm(inches)

220V Series

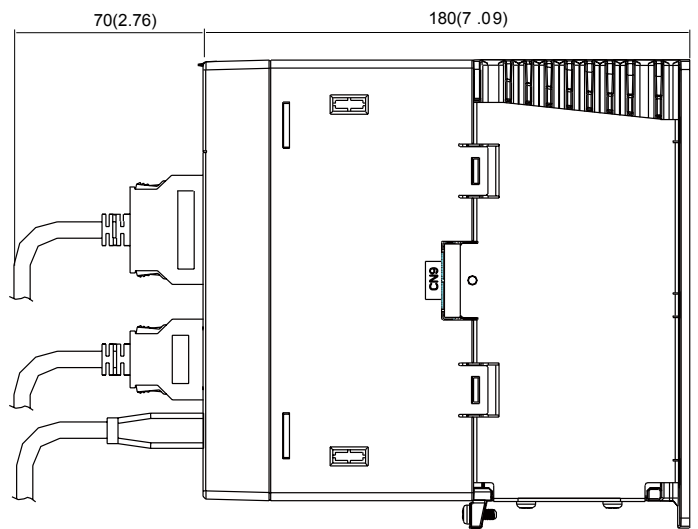
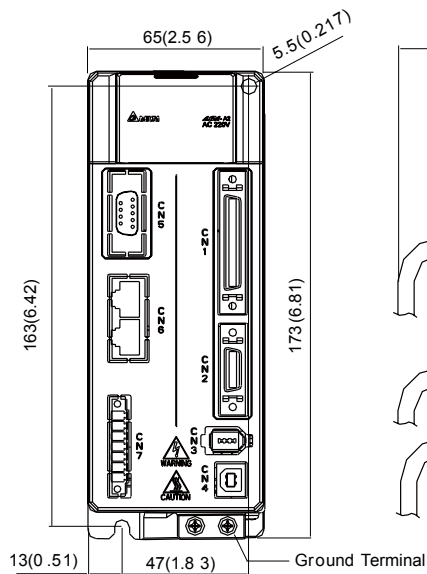
100W / 200W / 400W

Weight
1.5 (3.3)



7500W / 1.0kW / 1.5kW

Weight
2.0 (4.4)

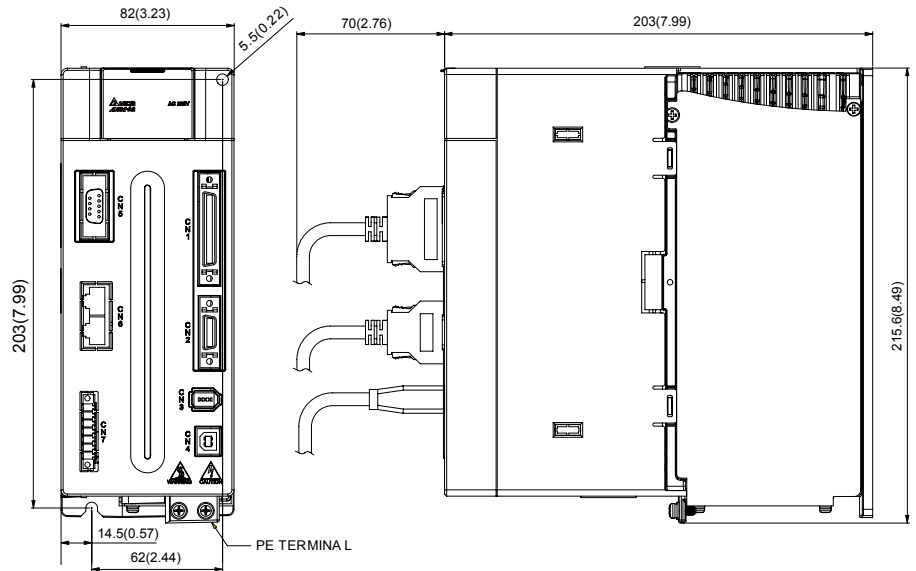


NOTE

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

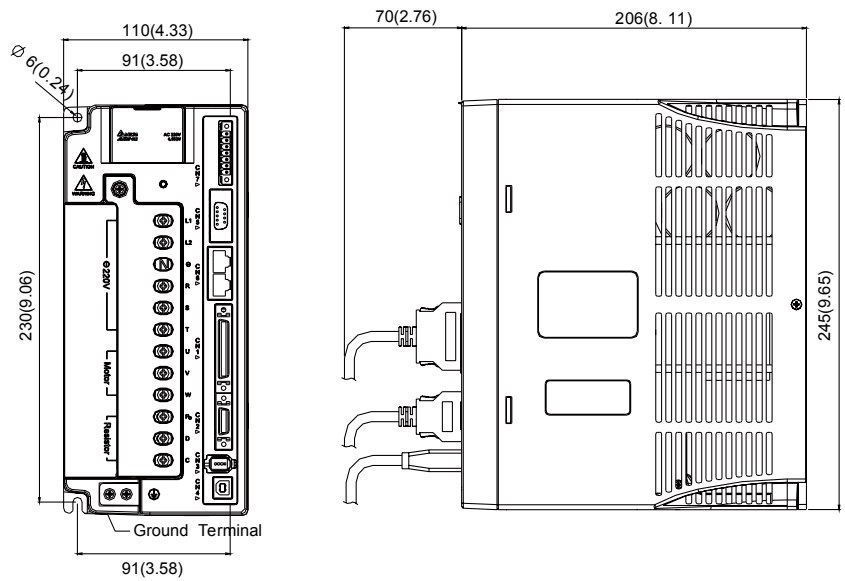
2.0kW / 3.0kW

Weight
2.89 (6.36)



4.5kW

Weight
4.4 (10.0)



NOTE

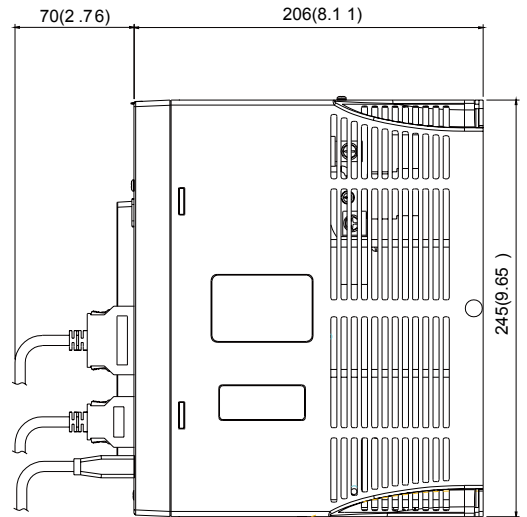
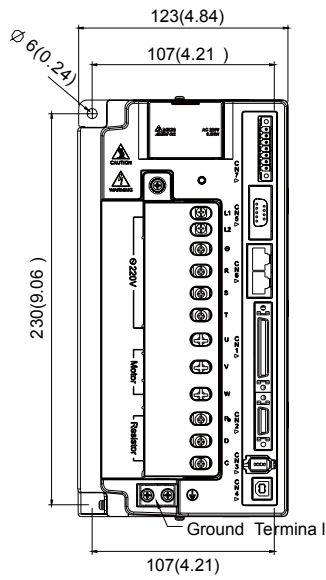
- 1) Dimensions are in millimeters (inches); Weights are in kilograms (kg) and (pounds) (lbs).
- 2) Dimensions and weights of the servo drive may be revised without prior notice.

Servo Drive Dimensions Units: mm(inches)

220V Series

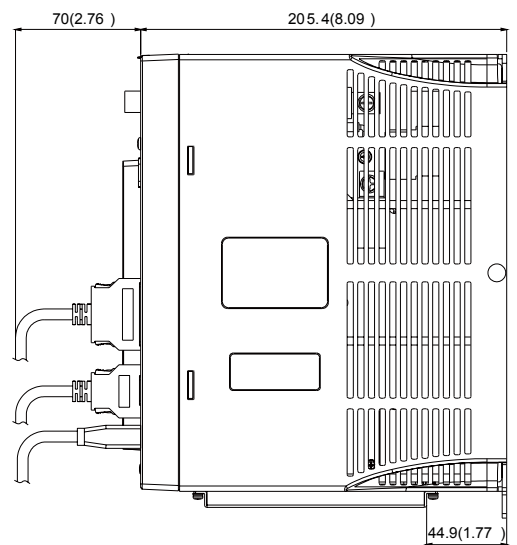
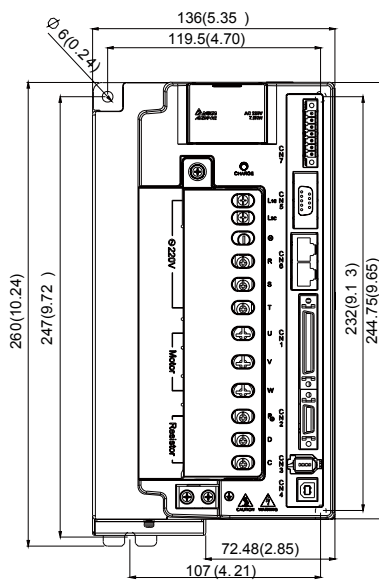
5.5kW

Weight
5.5 (12.1)



7.5kW

Weight
5.9 (13)

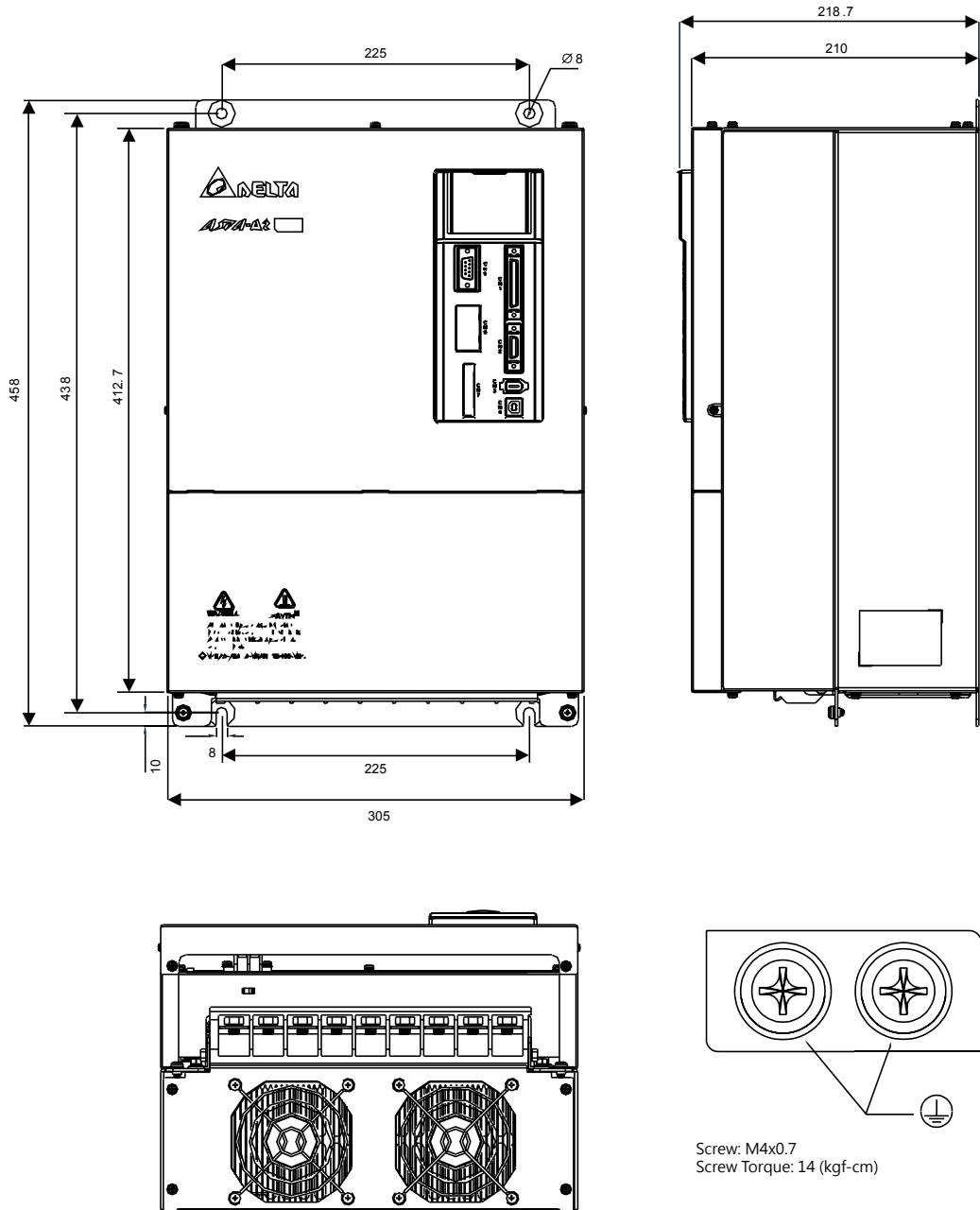


NOTE

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

11kW / 15kW

Weight
20 (44)



NOTE

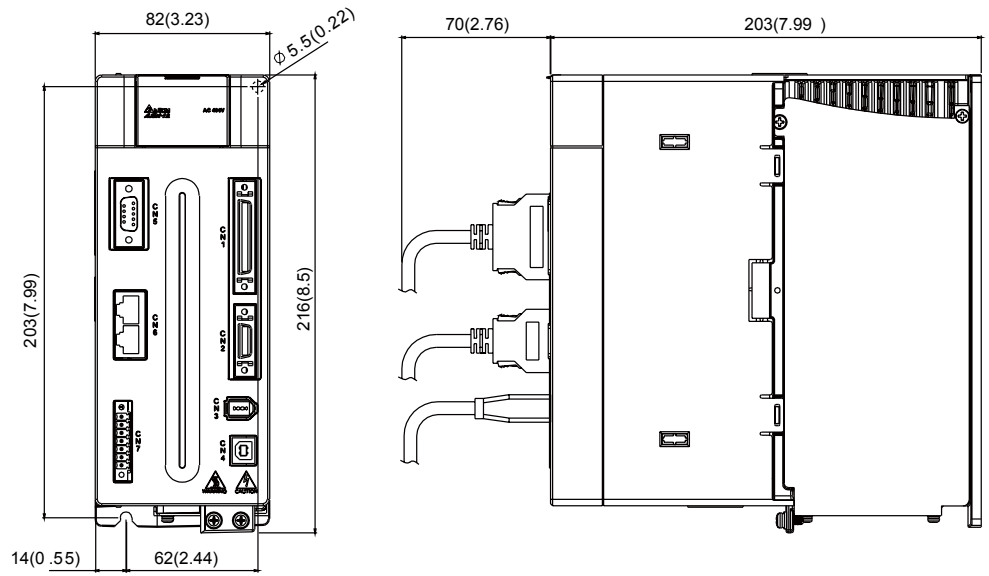
- 1) Dimensions are in millimeters (inches); Weights are in kilograms (kg) and (pounds (lbs)).
- 2) Dimensions and weights of the servo drive may be revised without prior notice.

Servo Drive Dimensions Units: mm(inches)

400V Series

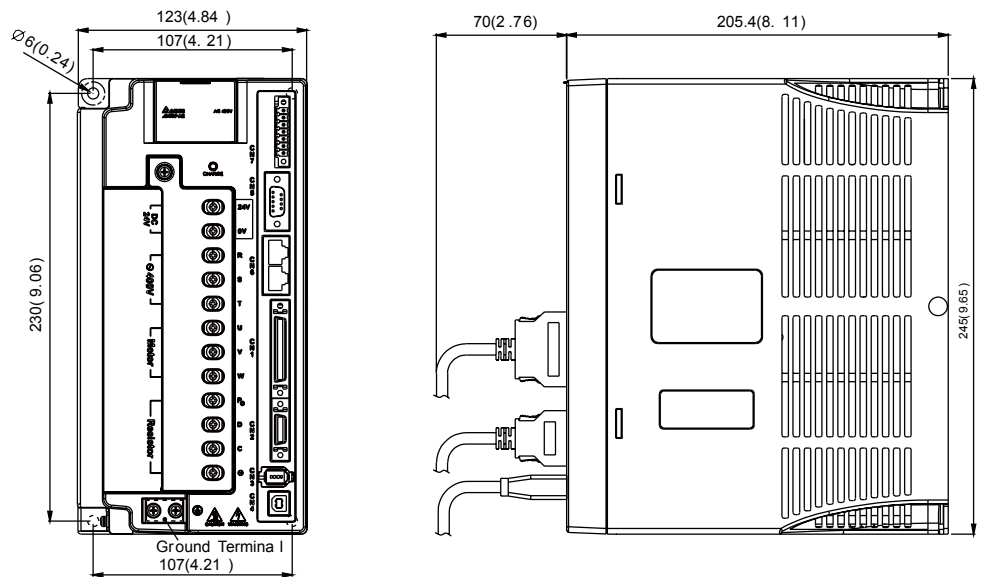
750W / 1.0kW / 1.5kW

Weight
2.89 (6.36)



2.0kW / 3.0kW / 4.5kW / 5.5kW

Weight
5.5 (12.1)



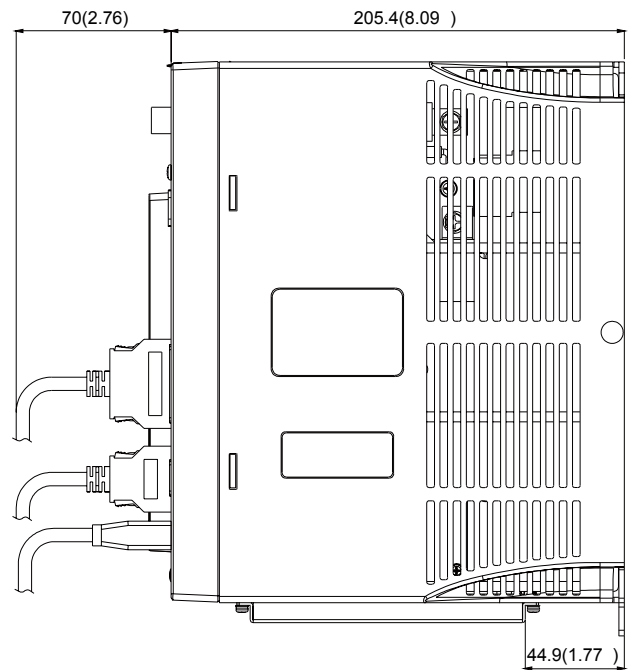
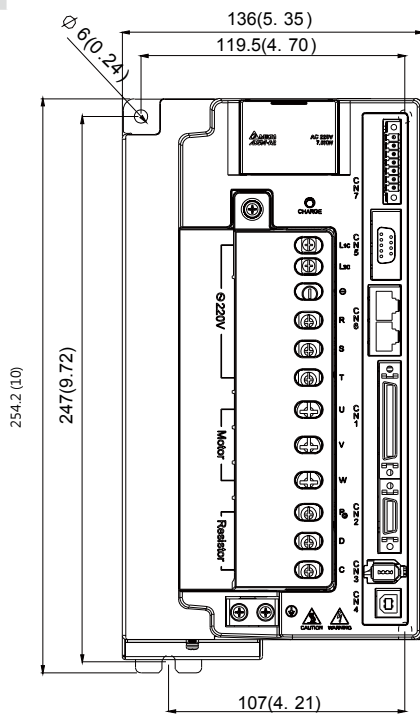
NOTE

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

7.5kW

Weight

5.5 (12.1)



NOTE

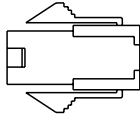
- 1) Dimensions are in millimeters (inches); Weights are in kilograms (kg) and (pounds (lbs)).
- 2) Dimensions and weights of the servo drive may be revised without prior notice.



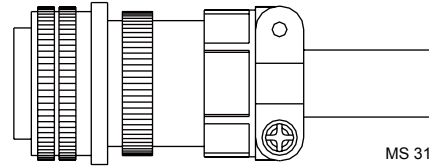
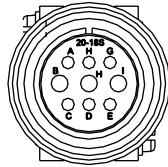
Optional Cables and Connectors

● Power Connectors

ASDBCAPW0000 (for 200V drives)

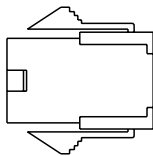


ASD-CAPW1000

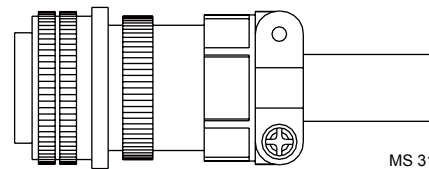
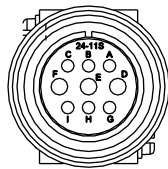


MS 3106A-20-18S

ASDBCAPW0100 (for 200V drives, with brake cable)

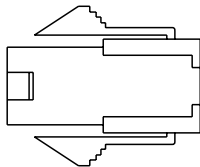


ASD-CAPW2000

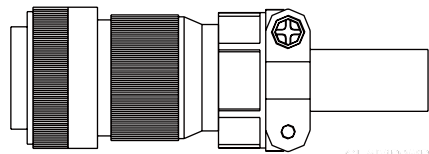
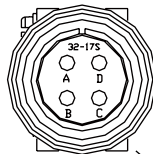


MS 3106A-24-11S

ASD-CAPW5400 (for 400V drives)



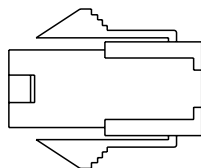
ASD-CAPW4000



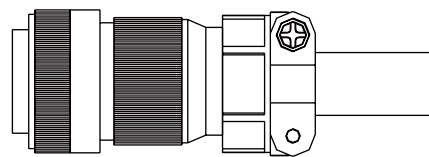
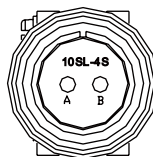
Straight Plug WPS3106A-32-17S

CLAMP: WPS3057-20A

ASD-CAPW5100 (for 400V drives, with brake cable)



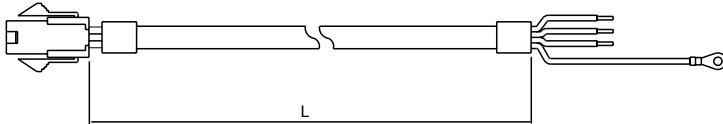
ASD-CNBR1000



CLAMP: WPS3106A 10SL-4S-R

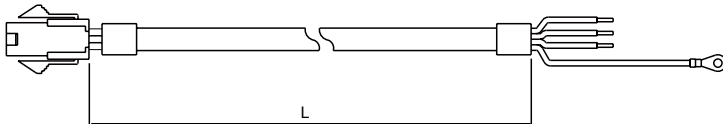
● Power Cables

ASD-ABPW0003, ASD-ABPW0005 (for 200V drives)



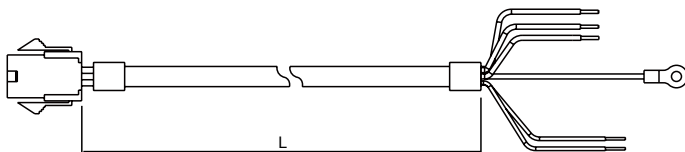
Item	Part No.	L	
		mm	inch
1	ASD-ABPW0003	3000 ± 100	118 ± 4
2	ASD-ABPW0005	5000 ± 100	197 ± 4

ASD-CAPW5403, ASD-CAPW5405 (for 400V drives)



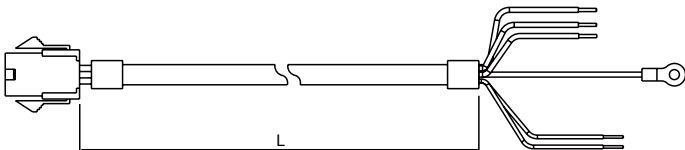
Item	Part No.	L	
		mm	inch
1	ASD-CAPW5403	3000 ± 100	118 ± 4
2	ASD-CAPW5405	5000 ± 100	197 ± 4

AASD-ABPW0103, ASD-ABPW0105 (for 200V drives, with brake cable)



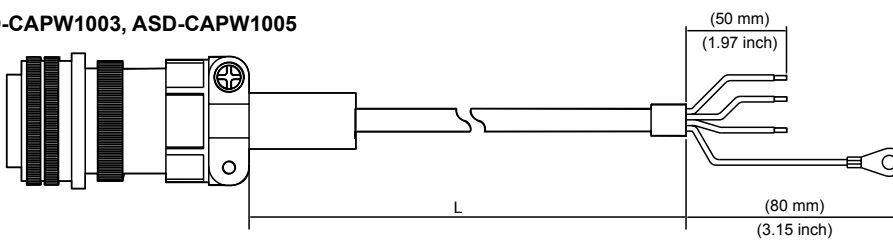
Item	Part No.	L	
		mm	inch
1	ASD-ABPW0103	3000 ± 100	118 ± 4
2	ASD-ABPW0105	5000 ± 100	197 ± 4

ASD-CAPW5103, ASD-CAPW5105 (for 400V drives, with brake cable)



Item	Part No.	L	
		mm	inch
1	ASD-CAPW5103	3000 ± 100	118 ± 4
2	ASD-CAPW5105	5000 ± 100	197 ± 4

ASD-CAPW1003, ASD-CAPW1005

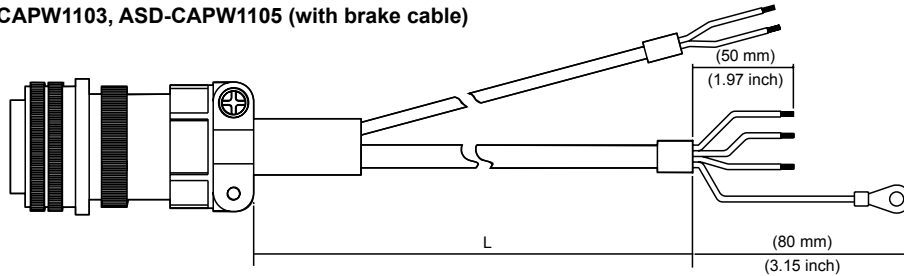


Item	Part No.	Straight	L	
			mm	inch
1	ASD-CAPW1003	3106A-20-18S	3000 ± 100	118 ± 4
2	ASD-CAPW1005	3106A-20-18S	5000 ± 100	197 ± 4

Optional Cables and Connectors

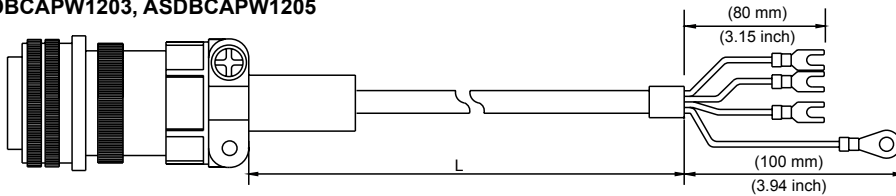
● Power Cables

ASD-CAPW1103, ASD-CAPW1105 (with brake cable)



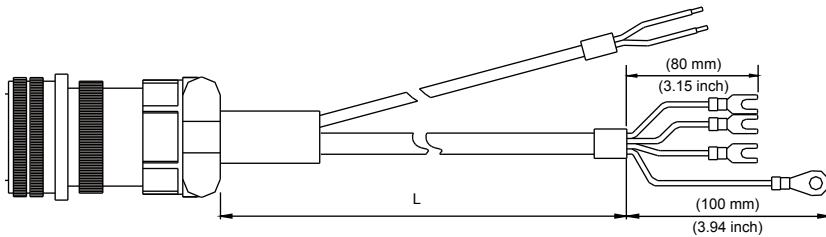
Item	Part No.	Straight	L	
			mm	inch
1	ASD-CAPW1103	3106A-20-18S	3000 ± 100	118 ± 4
2	ASD-CAPW1105	3106A-20-18S	5000 ± 100	197 ± 4

ASDBCAPW1203, ASDBCAPW1205



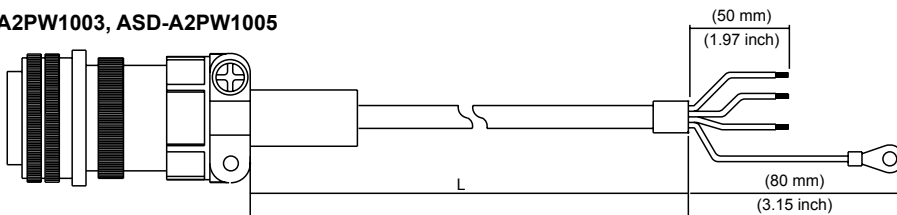
Item	Part No.	Straight	L	
			mm	inch
1	ASD-BCAPW1203	3106A-20-18S	3000 ± 100	118 ± 4
2	ASDB-CAPW1205	3106A-20-18S	5000 ± 100	197 ± 4

ASD-CAPW1303, ASD-CAPW1305 (with brake cable)



Item	Part No.	Straight	L	
			mm	inch
1	ASD-CAPW1303	3106A-20-18S	3000 ± 100	118 ± 4
2	ASD-CAPW1305	3106A-20-18S	5000 ± 100	197 ± 4

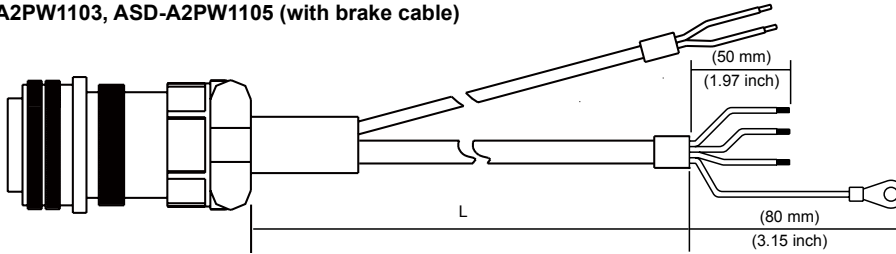
ASD-A2PW1003, ASD-A2PW1005



Item	Part No.	Straight	L	
			mm	inch
1	ASD-A2PW1003	3106A-20-18S	3000 ± 100	118 ± 4
2	ASD-A2PW1005	3106A-20-18S	5000 ± 100	197 ± 4

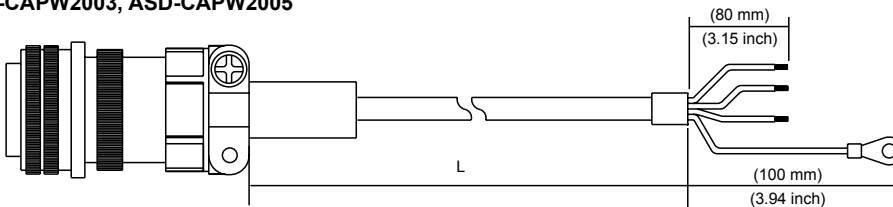
● Power Cables

ASD-A2PW1103, ASD-A2PW1105 (with brake cable)



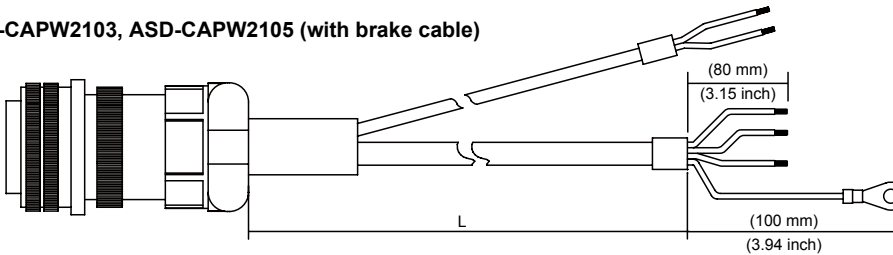
Item	Part No.	Straight	L	
			mm	inch
1	ASD-A2PW1103	3106A-20-18S	3000 ± 100	118 ± 4
2	ASD-A2PW1105	3106A-20-18S	5000 ± 100	197 ± 4

ASD-CAPW2003, ASD-CAPW2005



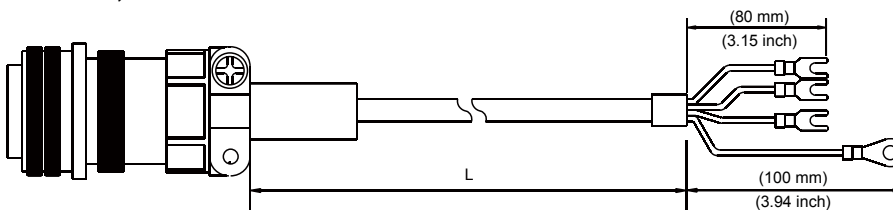
Item	Part No.	Straight	L	
			mm	inch
1	ASD-CAPW2003	3106A-24-11S	3000 ± 100	118 ± 4
2	ASD-CAPW2005	3106A-24-11S	5000 ± 100	197 ± 4

ASD-CAPW2103, ASD-CAPW2105 (with brake cable)



Item	Part No.	Straight	L	
			mm	inch
1	ASD-CAPW2103	3106A-24-11S	3000 ± 100	118 ± 4
2	ASD-CAPW2105	3106A-24-11S	5000 ± 100	197 ± 4

ASD-CAPW2203, ASD-CAPW2205

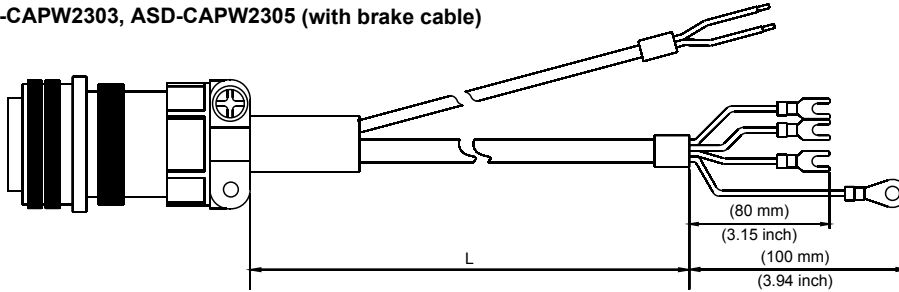


Item	Part No.	Straight	L	
			mm	inch
1	ASD-CAPW2203	3106A-24-11S	3000 ± 100	118 ± 4
2	ASD-CAPW2205	3106A-24-11S	5000 ± 100	197 ± 4

Optional Cables and Connectors

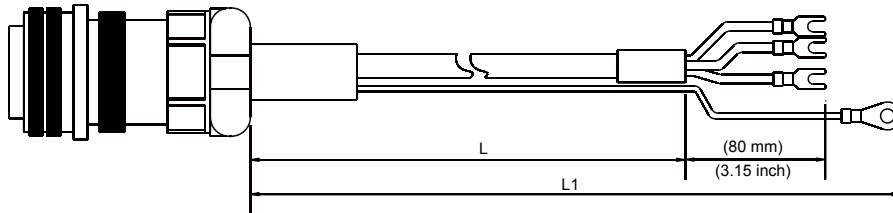
● Power Cables

ASD-CAPW2303, ASD-CAPW2305 (with brake cable)



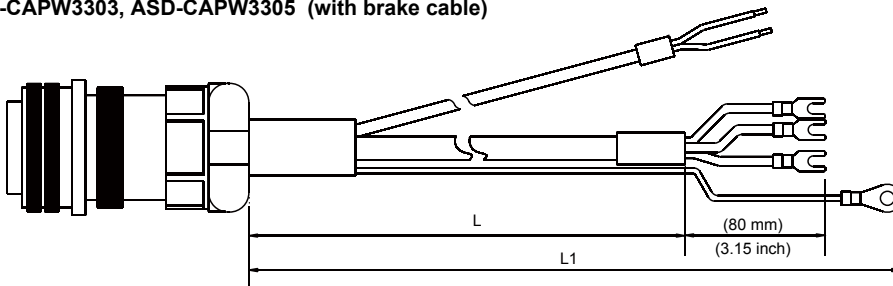
Item	Part No.	Straight	L	
			mm	inch
1	ASD-CAPW2303	3106A-24-11S	3000 ± 100	118 ± 4
2	ASD-CAPW2305	3106A-24-11S	5000 ± 100	197 ± 4

ASD-CAPW3203, ASD-CAPW3205



Item	Part No.	Straight	L		L1	
			mm	inch	mm	inch
1	ASD-CAPW3203	MS 3106-24-11S	3000 ± 100	118 ± 4	3100 ± 100	122 ± 4
2	ASD-CAPW3205	MS 3106-24-11S	5000 ± 100	197 ± 4	5100 ± 100	201 ± 4

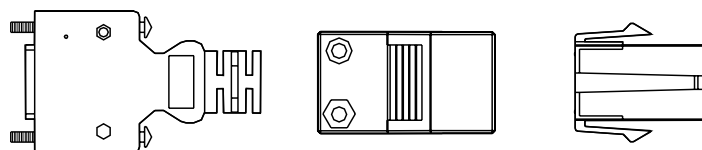
ASD-CAPW3303, ASD-CAPW3305 (with brake cable)



Item	Part No.	Straight	L		L1	
			mm	inch	mm	inch
1	ASD-CAPW3303	MS 3106-24-11S	3000 ± 100	118 ± 4	3100 ± 100	122 ± 4
2	ASD-CAPW3305	MS 3106-24-11S	5000 ± 100	197 ± 4	5100 ± 100	201 ± 4

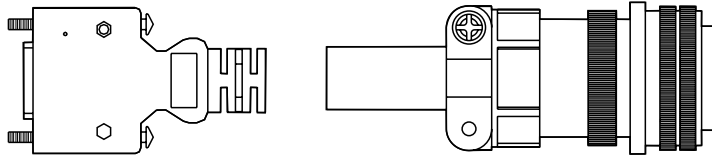
● Encoder Connectors

ASD-ABEN0000



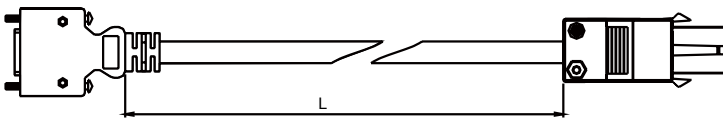
● Encoder Connectors

ASD-CAEN1000



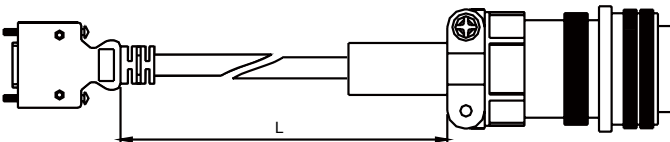
● Incremental Encoder Cables

ASD-ABEN0003 · ASD-ABEN0005



Item	Part No.	L	
		mm	inch
1	ASD-ABEN0003	3000 ± 100	118 ± 4
2	ASD-ABEN0005	5000 ± 100	197 ± 4

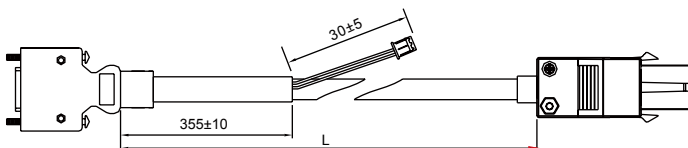
ASD-CAEN1003 · ASD-CAEN1005



Item	Part No.	Straight	L	
			mm	inch
1	ASD-CAEN1003	3106A-20-29S	3000 ± 100	118 ± 4
2	ASD-CAEN1005	3106A-20-29S	5000 ± 100	197 ± 4

● Absolute Encoder Cables

ASD-A2EB0003 · ASD-A2EB0005

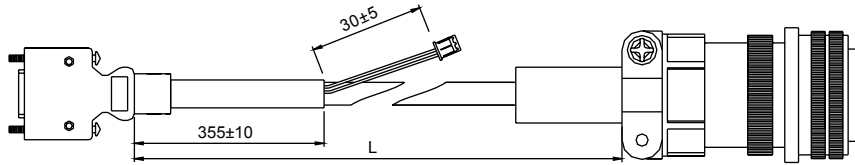


Item	Part No.	L	
		mm	inch
1	ASD-A2EB0003	3000 ± 100	118 ± 4
2	ASD-A2EB0005	5000 ± 100	197 ± 4

Optional Cables and Connectors

● Absolute Encoder Cables

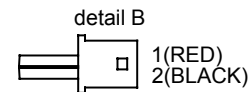
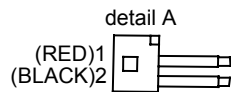
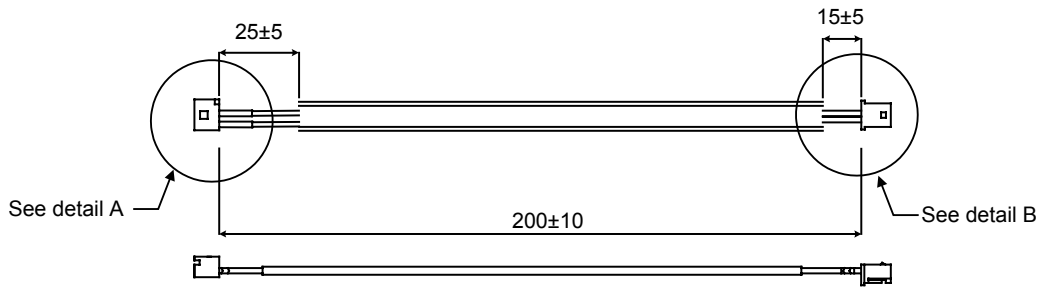
ASD-A2EB1003, ASD-A2EB1005



Item	Part No.	L	
		mm	inch
1	ASD-A2EB1003	3000 ± 100	118 ± 4
2	ASD-A2EB1005	5000 ± 100	197 ± 4

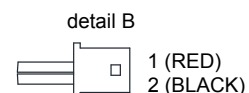
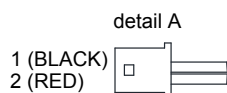
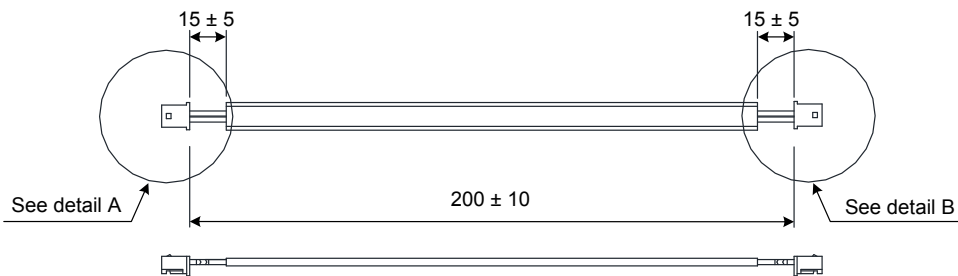
● Battery Box Cord AW (Connects to the battery side of the encoder cable) Units: mm

3864573700



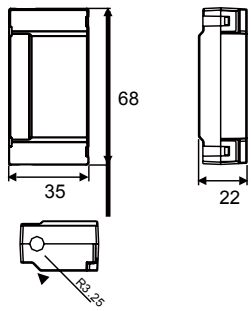
● Battery Box Cord IW (Connects to CN8) Units: mm

3864811900

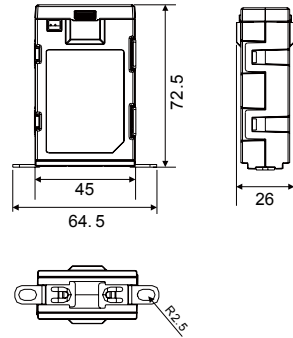


● **Battery Boxes with batteries** Units: mm

Single Battery Box
ASD-MDBT0100

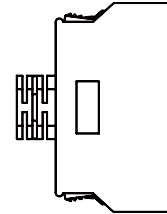


Dual Battery Box
ASD-MDBT0200



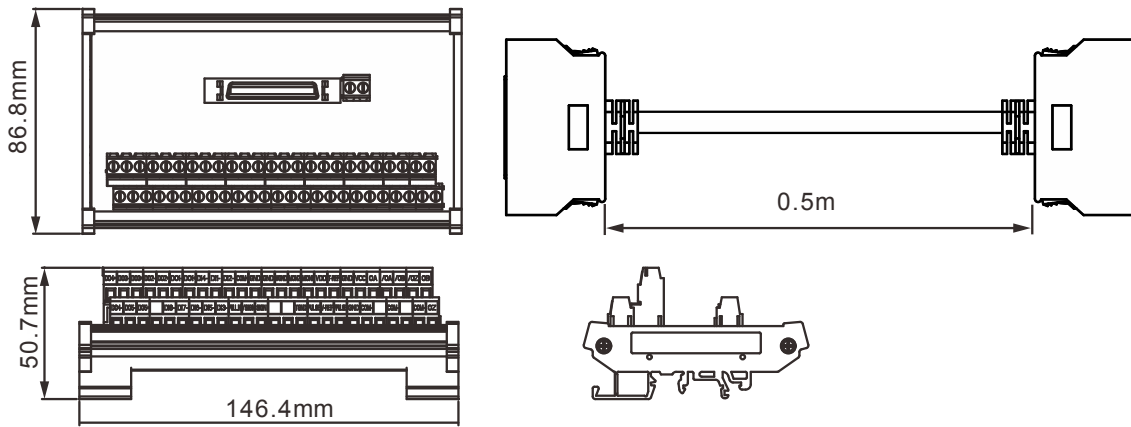
● **I/O Signal Connector (CN1)**

ASD-CN5C0050



● **Terminal Block Module**

ASD-BM-50A



● **RS-232 Communication Cable**

ASD-CARS0003

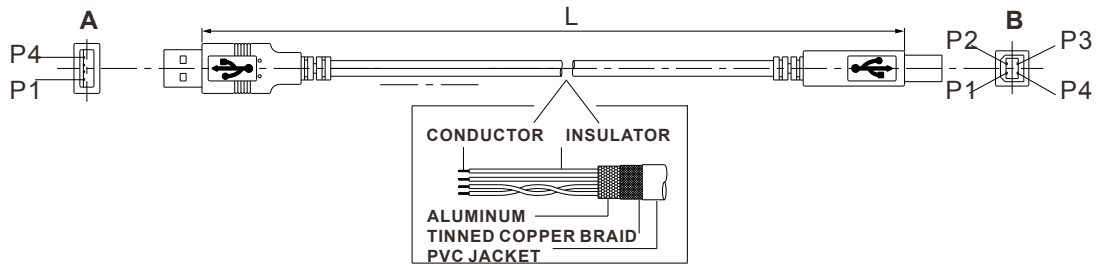


Item	Part No.	L	
		mm	inch
1	ASD-CARS0003	3000 ± 100	118 ± 4

Optional Cables and Connectors

● Communication Cable between Drive and Computer (for PC)

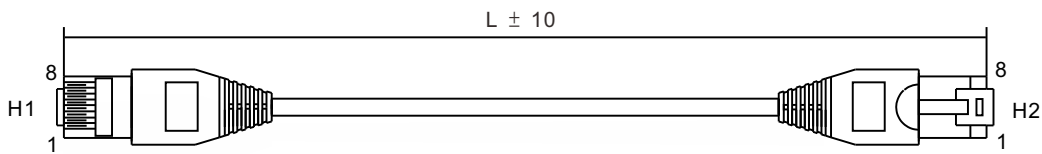
DOP-CAUSBAB



Item	Part No.	L	
		mm	inch
1	DOP-CAUSBAB	1400 ± 30	55 ± 1.2

● CANopen Communication Cable

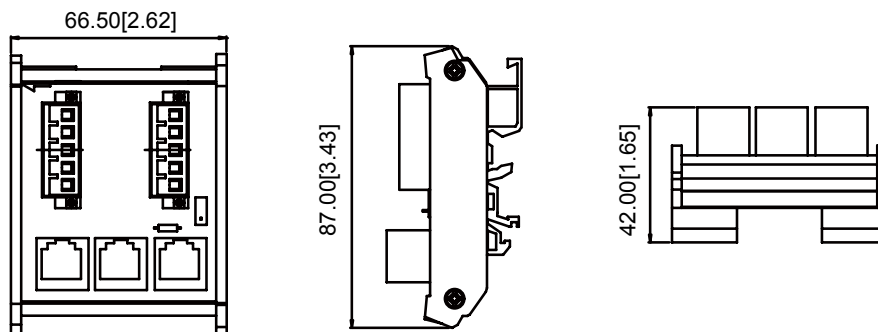
TAP-CB03 · TAP-CB05



Item	Part No.	L	
		mm	inch
1	TAP-CB03	300 ± 10	11 ± 0.4
2	TAP-CB05	500 ± 10	19 ± 0.4

● CANopen Distribution Box Units: mm[inch]

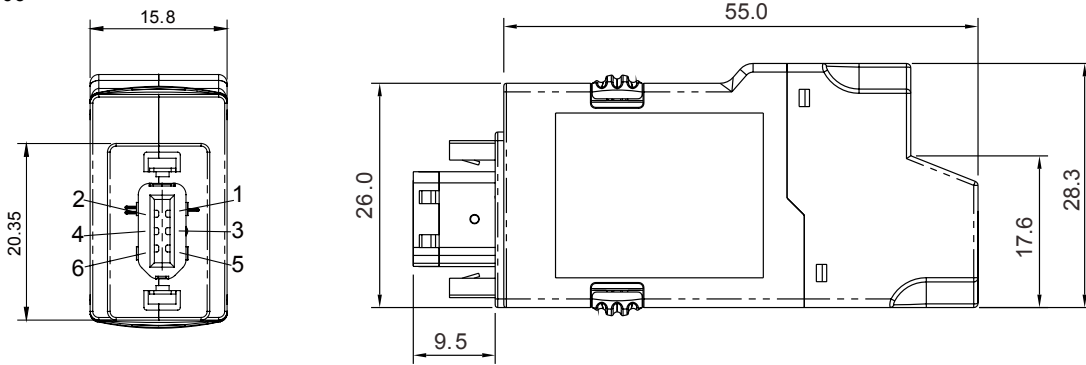
TAP-CN03



- 1) Other accessories for ASDA-A2 series will be increased gradually.
 2) Accessories images shown here may differ from actual product appearance. Please refer to the actual product appearance.

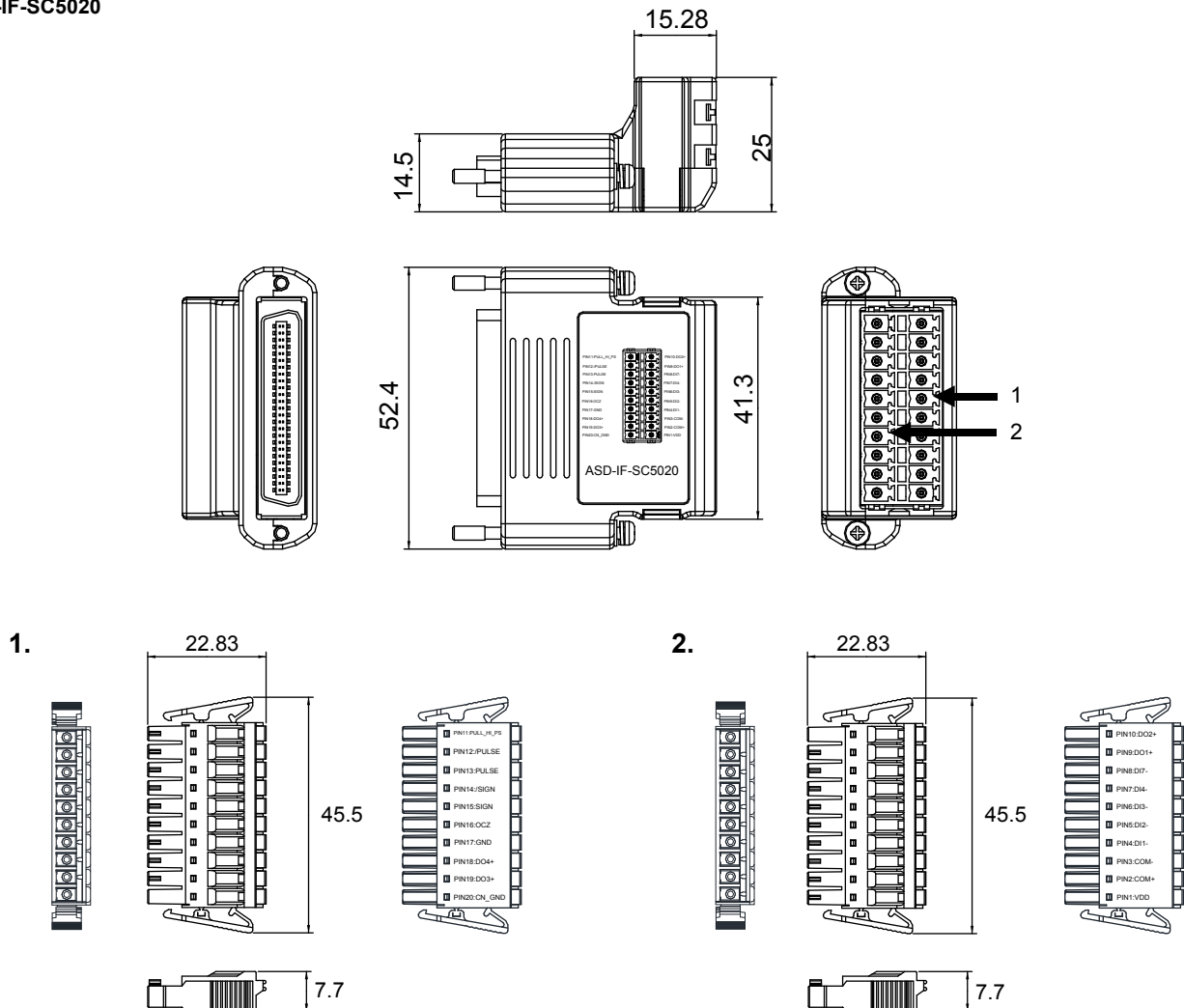
● **RS-485 Connector** Units: mm[inch]

ASD-CNIE0B06



● **CN1 I/O Connector** Units: mm[inch]

ASD-IF-SC5020



Servo Drive, Servo Motor and Accessories Combinations

220V Series

100W Servo Drive and 50W Low Inertia Servo Motor

Servo Drive	ASD-A2-0121-□
Low Inertia Servo Motor	ECMA-C1040F □ S
Power Cable (Without Brake)	ASD-ABPW000X
Power Connector (Without Brake)	ASDBCAPW0000
Power Cable (With Brake)	ASD-ABPW010X
Power Connectors (With Brake)	ASDBCAPW0100
Incremental Encoder Cable	ASD-ABEN000X
Absolute Encoder Cable	ASD-A2EB000X
Encoder Connectors	ASD-ABEN0000

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

100W Servo Drive and 100W Low Inertia Servo Motor

Servo Drive	ASD-A2-0121-□
Low Inertia Servo Motor	ECMA-C△0401 □ S
Power Cable (Without Brake)	ASD-ABPW000X
Power Connector (Without Brake)	ASDBCAPW0000
Power Cable (With Brake)	ASD-ABPW010X
Power Connectors (With Brake)	ASDBCAPW0100
Incremental Encoder Cable	ASD-ABEN000X
Absolute Encoder Cable	ASD-A2EB000X
Encoder Connectors	ASD-ABEN0000

(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-A2-0221-□
Low Inertia Servo Motor	ECMA-C△0602 □ S
Power Cable (Without Brake)	ASD-ABPW000X
Power Connector (Without Brake)	ASDBCAPW0000
Power Cable (With Brake)	ASD-ABPW010X
Power Connector (With Brake)	ASDBCAPW0100
Incremental Encoder Cable	ASD-ABEN000X
Absolute Encoder Cable	ASD-A2EB000X
Encoder Connector	ASD-ABEN0000

(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-A2-0421-□
Low Inertia Servo Motor	ECMA-C△0604 □ S ECMA-C△0604 □ H ECMA-C△0804 □ 7
Power Cable (Without Brake)	ASD-ABPW000X
Power Connector (Without Brake)	ASDBCAPW0000
Power Cable (With Brake)	ASD-ABPW010X
Power Connector (With Brake)	ASDBCAPW0100
Incremental Encoder Cable	ASD-ABEN000X
Absolute Encoder Cable	ASD-A2EB000X
Encoder Connector	ASD-ABEN0000

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

400W Servo Drive and 500W Medium Servo Motor

Servo Drive	ASD-A2-0421-□
Medium Servo Motor	ECMA-E△1305 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

(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-A2-0421-□
High Inertia Servo Motor	ECMA-G△1303 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

(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-A2-0721-□
Low Inertia Servo Motor	ECMA-C△0807 □ S ECMA-C△0807 □ H ECMA-C△0907 □ S
Power Cable (Without Brake)	ASD-ABPW000X
Power Connector (Without Brake)	ASDBCAPW0000
Power Cable (With Brake)	ASD-ABPW010X
Power Connector (With Brake)	ASDBCAPW0100
Incremental Encoder Cable	ASD-ABEN000X
Absolute Encoder Cable	ASD-A2EB000X
Encoder Connector	ASD-ABEN0000

(X=3 為長度 3m; X=5 為長度 5m)

750W Servo Drive and 500W High Inertia Servo Motor

Servo Drive	ASD-A2-0721-□
High Inertia Servo Motor	ECMA-F△1305 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector (With Brake)	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

(X=3 為長度 3m; X=5 為長度 5m)

750W Servo Drive and 600W High Inertia Servo Motor

Servo Drive	ASD-A2-0721-□
High Inertia Servo Motor	ECMA-G△1306 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

(X=3 為長度 3m; X=5 為長度 5m)

1kW Servo Drive and 1kW Low Inertia Servo Motor

Servo Drive	ASD-A2-1021-□
Low Inertia Servo Motor	ECMA-C△1010 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector (With Brake)	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

(X=3 為長度 3m; X=5 為長度 5m)

1kW Servo Drive and 1kW Low Inertia Servo Motor

Servo Drive	ASD-A2-1021-□
Low Inertia Servo Motor	ECMA-C△0910 □ S
Power Cable (Without Brake)	ASD-ABPW000X
Power Cables (With Brake)	ASD-ABPW010X
Power Connector (Without Brake)	ASDBCAPW0000
Power Connector (With Brake)	ASDBCAPW0100
Incremental Encoder Cable	ASD-ABEN000X
Absolute Encoder Cable	ASD-A2EB000X
Encoder Connector	ASD-ABEN0000

(X=3 為長度 3m; X=5 為長度 5m)

1kW Servo Drive and 1kW Medium Servo Motor

Servo Drive	ASD-A2-1021-□
Medium Servo Motor	ECMA-E△1310 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

(X=3 為長度 3m; X=5 為長度 5m)

Servo Drive, Servo Motor and Accessories Combinations

220V Series

1kW Servo Drive and 850W High Inertia Servo Motor

Servo Drive	ASD-A2-1021-□
High Inertia Servo Motor	ECMA-F△1308 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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-A2-1021-□
High Inertia Servo Motor	ECMA-G△1309 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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 Servo Motor

Servo Drive	ASD-A2-1521-□
Medium Servo Motor	ECMA-E△1315 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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-A2-2023-□
Low Inertia Servo Motor	ECMA-C△1020 □ S
Power Cables (Without Brake)	ASD-A2PW100X
Power Cables (With Brake)	ASD-A2PW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

2kW Servo Drive and 2kW Medium Servo Motor

Servo Drive	ASD-A2-2023-□
Medium Servo Motor	ECMA-E△1320 □ S
Power Cable (Without Brake)	ASD-A2PW100X
Power Cable (With Brake)	ASD-A2PW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

2kW Servo Drive and 2kW Medium Servo Motor

Servo Drive	ASD-A2-2023-□
Medium Servo Motor	ECMA-E△1820 □ S
Power Cable (Without Brake)	ASD-CAPW200X
Power Cable (With Brake)	ASD-CAPW210X
Power Connector	ASD-CAPW2000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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-A2-2023-□
Medium-High Inertia Servo Motor	ECMA-F△1313 □ S
Power Cable (Without Brake)	ASD-A2PW100X
Power Cable (With Brake)	ASD-A2PW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

(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-A2-2023-□
Medium-High Inertia Servo Motor	ECMA-F△1318 □ S
Power Cable (Without Brake)	ASD-A2PW100X
Power Cable (With Brake)	ASD-A2PW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

(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-A2-3023-□
Low Inertia Servo Motor	ECMA-C△1330 □ 4
Power Cable (Without Brake)	ASD-A2PW100X
Power Cable (With Brake)	ASD-A2PW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

3kW Servo Drive and 3kW Medium Servo Motor

Servo Drive	ASD-A2-3023-□
Medium Servo Motor	ECMA-E△1830 □ S
Power Cable (Without Brake)	ASD-CAPW200X
Power Cable (With Brake)	ASD-CAPW210X
Power Connector	ASD-CAPW2000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

(X=3 為長度 3m; X=5 為長度 5m)(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-High Inertia Servo Motor

Servo Drive	ASD-A2-3023-□
Medium-High Inertia Servo Motor	ECMA-E△1835 □ S
Power Cable (Without Brake)	ASD-CAPW200X
Power Cable (With Brake)	ASD-CAPW210X
Power Connector	ASD-CAPW2000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

((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-A2-3023-□
Medium-High Inertia Servo Motor	ECMA-F△1830 □ S
Power Cable (Without Brake)	ASD-CAPW200X
Power Cable (With Brake)	ASD-CAPW210X
Power Connector	ASD-CAPW2000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

Servo Drive, Servo Motor and Accessories Combinations

220V Series

4.5kW Servo Drive and 4.5kW Medium-High Inertia Servo Motor

Servo Drive	ASD-A2-4523-□
Medium-High Inertia Servo Motor	ECMA-F△1845 □ S
Power Cable (Without Brake)	ASD-CAPW320X
Power Cable (With Brake)	ASD-CAPW330X
Power Connector	ASD-CAPW2000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

5.5kW Servo Drive and 5.5kW Medium-High Inertia Servo Motor

Servo Drive	ASD-A2-5523-□
Medium-High Inertia Servo Motor	ECMA-F△1855 □ 3
Power Cable (Without Brake)	-
Power Cable (With Brake)	-
Power Connector	ASD-CAPW4000
Brake Cable	ASD-CNBR1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

7.5kW Servo Drive and 7.5kW Medium-High Inertia Servo Motor

Servo Drive	ASD-A2-7523-□
Medium-High Inertia Servo Motor	ECMA-F△1875 □ 3
Power Cable (Without Brake)	-
Power Cable (With Brake)	-
Power Connector	ASD-CAPW4000
Brake Cable	ASD-CNBR1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

11kW Servo Drive and 11kW Medium-High Inertia Servo Motor

Servo Drive	ASD-A2-1B23-□
Medium-High Inertia Servo Motor	ECMA-F1221B □ 3
Power Cable (Without Brake)	-
Power Cable (With Brake)	-
Power Connector	ASD-CAPW4000
Brake Cable	ASD-CNBR1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

15kW Servo Drive and 15kW Medium-High Inertia Servo Motor

Servo Drive	ASD-A2-1F23-□
Medium-High Inertia Servo Motor	ECMA-F1221F □ S
Power Cable (Without Brake)	-
Power Cable (With Brake)	-
Power Connector	ASD-CAPW4000
Brake Cable	ASD-CNBR1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

400V Series

750W Servo Drive and 400W Low Inertia Servo Motor

Servo Drive	ASD-A2-0743-□
Low Inertia Servo Motor	ECMA-J△0604 □ S
Power Cable (Without Brake)	ASD-CAPW540X
Power Connector (Without Brake)	ASD-CAPW5400
Power Cable (With Brake)	ASD-CAPW510X
Power Connector (With Brake)	ASD-CAPW5100
Incremental Encoder Cable	ASD-ABEN000X
Absolute Encoder Cable	ASD-A2EB000X
Encoder Connector	ASD-ABEN0000

(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-A2-0743-□
Low Inertia Servo Motor	ECMA-J△0807 □ S
Power Cable (Without Brake)	ASD-CAPW540X
Power Connector (Without Brake)	ASD-CAPW5400
Power Cable (With Brake)	ASD-CAPW510X
Power Connector (With Brake)	ASD-CAPW5100
Incremental Encoder Cable	ASD-ABEN000X
Absolute Encoder Cable	ASD-A2EB000X
Encoder Connector	ASD-ABEN0000

(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-A2-0743-□
Low Inertia Servo Motor	ECMA-J△0907 □ S
Power Cable (Without Brake)	ASD-CAPW540X
Power Connector (Without Brake)	ASD-CAPW5400
Power Cable (With Brake)	ASD-CAPW510X
Power Connectors (With Brake)	ASD-CAPW5100
Incremental Encoder Cable	ASD-ABEN000X
Absolute Encoder Cable	ASD-A2EB000X
Encoder Connector	ASD-ABEN0000

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

750W Servo Drive and 500W Medium Servo Motor

Servo Drive	ASD-A2-0743-□
Medium Servo Motor	ECMA-K△1305 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

750W Servo Drive and 500W Medium-High Inertia Servo Motor

Servo Drive	ASD-A2-0743-□
Medium-High Inertia Servo Motor	ECMA-L△1305 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

1kW Servo Drive and 850W High Inertia Servo Motor

Servo Drive	ASD-A2-1043-□
High Inertia Servo Motor	ECMA-L△1308 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

Servo Drive, Servo Motor and Accessories Combinations

400V Series

1kW Servo Drive and 1kW Low Inertia Servo Motor

Servo Drive	ASD-A2-1043-□
Low Inertia Servo Motor	ECMA-J△0910 □ S
Power Cable (Without Brake)	ASD-CAPW540X
Power Connector (Without Brake)	ASD-CAPW5400
Power Cable (With Brake)	ASD-CAPW510X
Power Connector (With Brake)	ASD-CAPW5100
Incremental Encoder Cable	ASD-ABEN000X
Absolute Encoder Cable	ASD-A2EB000X
Encoder Connector	ASD-ABEN0000

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

1.5kW Servo Drive and 900W High Inertia Servo Motor

Servo Drive	ASD-A2-1543-□
High Inertia Servo Motor	ECMA-M△1309 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

1kW Servo Drive and 1kW Medium Servo Motor

Servo Drive	ASD-A2-1043-□
Medium Servo Motor	ECMA-K△1310 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

1.5kW Servo Drive and 1kW Low Inertia Servo Motor

Servo Drive	ASD-A2-1543-□
Low Inertia Servo Motor	ECMA-J△1010 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

1.5kW Servo Drive and 1.3kW Medium-High Inertia Servo Motor

Servo Drive	ASD-A2-1543-□
Medium-High Inertia Servo Motor	ECMA-L△1313 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

(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 Servo Motor

Servo Drive	ASD-A2-1543-□
Medium Servo Motor	ECMA-K△1315 □ S
Power Cable (Without Brake)	ASD-CAPW100X
Power Cable (With Brake)	ASD-CAPW110X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

(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-A2-2043-□
Low Inertia Servo Motor	ECMA-J△1020 □ S
Power Cable (Without Brake)	ASD-CAPW120X
Power Cable (With Brake)	ASD-CAPW130X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

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

Servo Drive	ASD-A2-2043-□
Medium Servo Motor	ECMA-K△1320 □ S
Power Cable (Without Brake)	ASD-CAPW120X
Power Cable (With Brake)	ASD-CAPW130X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

2kW Servo Drive and 2kW Medium Servo Motor

Servo Drive	ASD-A2-2043-□
Medium Servo Motor	ECMA-K△1820 □ S
Power Cable (Without Brake)	ASD-CAPW220X
Power Cable (With Brake)	ASD-CAPW230X
Power Connector	ASD-CAPW2000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

(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-A2-3043-□
Low Inertia Servo Motor	ECMA-J△1330 □ 4
Power Cable (Without Brake)	ASD-CAPW120X
Power Cable (With Brake)	ASD-CAPW130X
Power Connector	ASD-CAPW1000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

(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-A2-3043-□
Medium-High Inertia Servo Motor	ECMA-L△1830 □ S
Power Cable (Without Brake)	ASD-CAPW220X
Power Cable (With Brake)	ASD-CAPW230X
Power Connector	ASD-CAPW2000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

4.5kW Servo Drive and 4.5kW Medium-High Inertia Servo Motor

Servo Drive	ASD-A2-4543-□
Medium-High Inertia Servo Motor	ECMA-L△1845 □ S
Power Cable (Without Brake)	ASD-CAPW220X
Power Cable (With Brake)	ASD-CAPW230X
Power Connector	ASD-CAPW2000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

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

Servo Drive, Servo Motor and Accessories Combinations

400V Series

7.5kW Servo Drive and 7.5kW Medium-High Inertia Servo Motor

Servo Drive	ASD-A2-7543-□
Medium-High Inertia Servo Motor	ECMA-L11875 □ 3
Power Cable (Without Brake)	ASD-CAPW320X
Power Cable (With Brake)	ASD-CAPW330X
Power Connector	ASD-CAPW2000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

5.5kW Servo Drive and 5.5kW Medium-High Inertia Servo Motor

Servo Drive	ASD-A2-5543-□
Medium-High Inertia Servo Motor	ECMA-L11855 □ 3
Power Cable (Without Brake)	ASD-CAPW220X
Power Cable (With Brake)	ASD-CAPW230X
Power Connector	ASD-CAPW2000
Incremental Encoder Cable	ASD-CAEN100X
Absolute Encoder Cable	ASD-A2EB100X
Encoder Connector	ASD-CAEN1000

11kW and 15kW models will be available soon

For the available models and related optional accessories, please visit our website at: www.deltaww.com, or please consult our local distributors.

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

Other Accessories (for ASDA-A2 series all models)

Description	Delta Part Number
50-Pin I/O Connector (CN1)	ASD-CN500050
Terminal Block Module	ASD-BM-50A
RS-232 Communication Cable	ASD-CARS0003
Communication Cable between Drive and Computer (for PC)	DOP-CAUSBAB
CANopen Communication Cable	TAP-CB03 / TAP-CB05
CANopen Distribution Box	TAP-CN03
RS-485 Connector	ASD-CNIE0B06
Regenerative Resistor 400W 40Ω	BR400W040
Regenerative Resistor 1kW 20Ω	BR1K0W020
Regenerative Resistor 1.5kW 5Ω	BR1K5W005

Safety Information

Global Standards	ASDA-A2 series is designed to fully comply with demanding international standards, such as IEC, EN and others, 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 Class A Group 1, with external EMC filter
CE Marking	CE recognized. Complies with Directive 2006/95/EC of the European Parliament and EMC Directive 2004/108/EC.
UL Approval	UL (U.S.), cUL (Canada) recognized.
Test Standard	IEC/EN50178, IEC/EN60529 IP20
Vibration	1G less than 20Hz, 0.6G 20 to 50Hz. Complies with IEC/EN50178
Shock	15gn 11ms. Complies with IEC/EN600028-2-27
Pollution Degree	Degree 2. Complies with IEC/EN61800-5-1

Regenerative Resistor Specifications

220V Series

Servo Drive (kW)	Specifications of Built-in Regenerative Resistors		Min. Allowable Resistance (Ohm)
	Resistance (parameter P1-52) (Ohm)	Capacity (parameter P1-53) (Watt)	
0.1	-	-	30Ω
0.2	-	-	30Ω
0.4	40Ω	40Ω	30Ω
0.75	40Ω	60Ω	20Ω
1.0	40Ω	60Ω	20Ω
1.5	40Ω	60Ω	20Ω
2.0	20Ω	100Ω	10Ω
3.0	20Ω	100Ω	10Ω
4.5	20Ω	100Ω	10Ω
5.5	-	-	8Ω
7.5	-	-	5Ω
11	-	-	8Ω
15	-	-	5Ω

Footnote:

- 400W ~ 4.5kW servo drives provide a built-in regenerative resistor.
- 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.)
- If the situation is not improved after increasing the regenerative resistor capacity or decreasing the regenerative resistor resistance, please purchase regenerative resistor module.
- When combining multiple small-capacity regenerative resistors in parallel to increase the regenerative resistor capacity, make sure that the total resistance value of the regenerative resistors should not be less than the minimum allowable resistance listed in the above table.

400V Series

Servo Drive (kW)	Specifications of Built-in Regenerative Resistors		Min. Allowable Resistance (Ohm)
	Resistance (parameter P1-52) (Ohm)	Capacity (parameter P1-53) (Watt)	
0.4	80Ω	100W	60Ω
0.75	80Ω	100W	60Ω
1.0	80Ω	100W	60Ω
1.5	80Ω	100W	40Ω
2.0	-	-	40Ω
3.0	-	-	30Ω
4.5	-	-	20Ω
5.5	-	-	20Ω
7.5	-	-	15Ω

Footnote:

- 750W ~ 1.5kW servo drives provide a built-in regenerative resistor.
- 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.)
- If the situation is not improved after increasing the regenerative resistor capacity or decreasing the regenerative resistor resistance, please purchase regenerative resistor module.
- When combining multiple small-capacity regenerative resistors in parallel to increase the regenerative resistor capacity, make sure that the total resistance value of the regenerative resistors should not be less than the minimum allowable resistance listed in the above table.



Smarter. Greener. Together.

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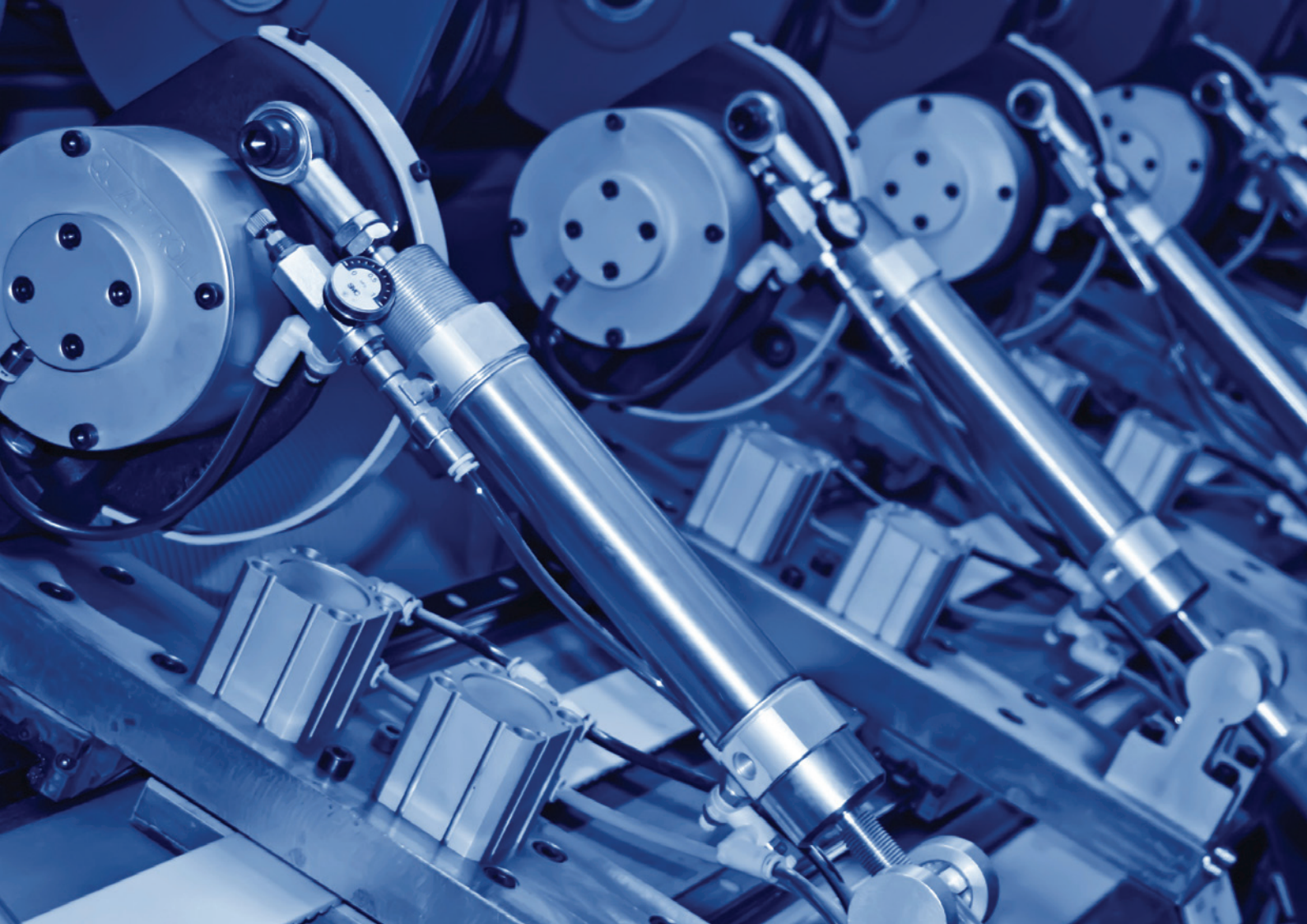
Sao Paulo Office
Rua Itapeva, 26 - 3° andar Edificio Itapeva One-Bela Vista
01332-000-São Paulo-SP-Brazil
TEL: 55 11 3568-3855 / FAX: 55 11 3568-3865

Europe

Deltronics (The Netherlands) B.V.

Eindhoven Office
De Witbogt 20, 5652 AG Eindhoven, The Netherlands
TEL: 31-40-2592850 / FAX: 31-40-2592851

*We reserve the right to change the information in this catalogue without prior notice.



Automation for a Changing World

Delta AC Servo Drive ASDA-B2 Series



www.deltaww.com

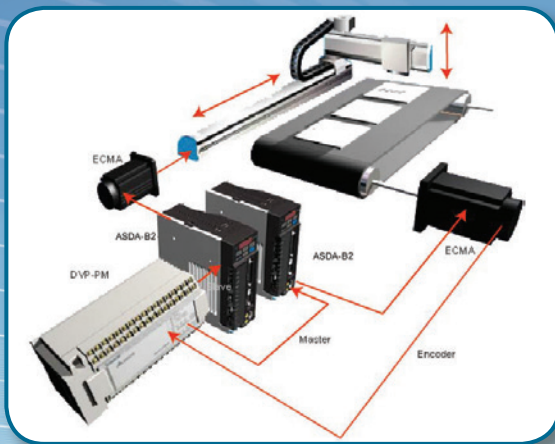
 **DELTA**
Smarter. Greener. Together.

High Precision. High Response. Cost Effective.

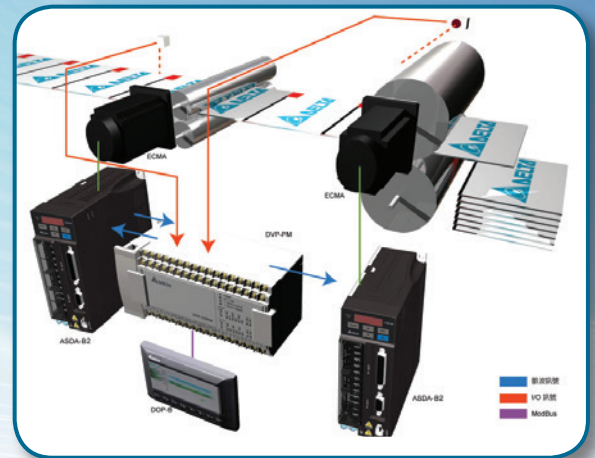
Delta Electronics' new high-performance, cost-effective ASDA-B2 series servo motors and drives meet the requirements for general-purpose machine tools and enhance the competitive advantage of servo systems.

The power rating of the ASDA-B2 series ranges from 0.1kW to 3kW. The superior features of this series emphasize built-in functions for general-purpose applications and saving the cost of mechatronics integration. Delta's ASDA-B2 makes it convenient to complete the setting of assembly, wiring and operation. The ASDA-B2 also provides different control modes for different applications.

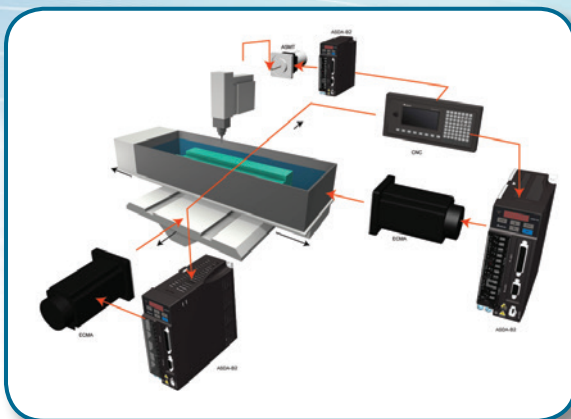
Transporting and Conveying Equipment

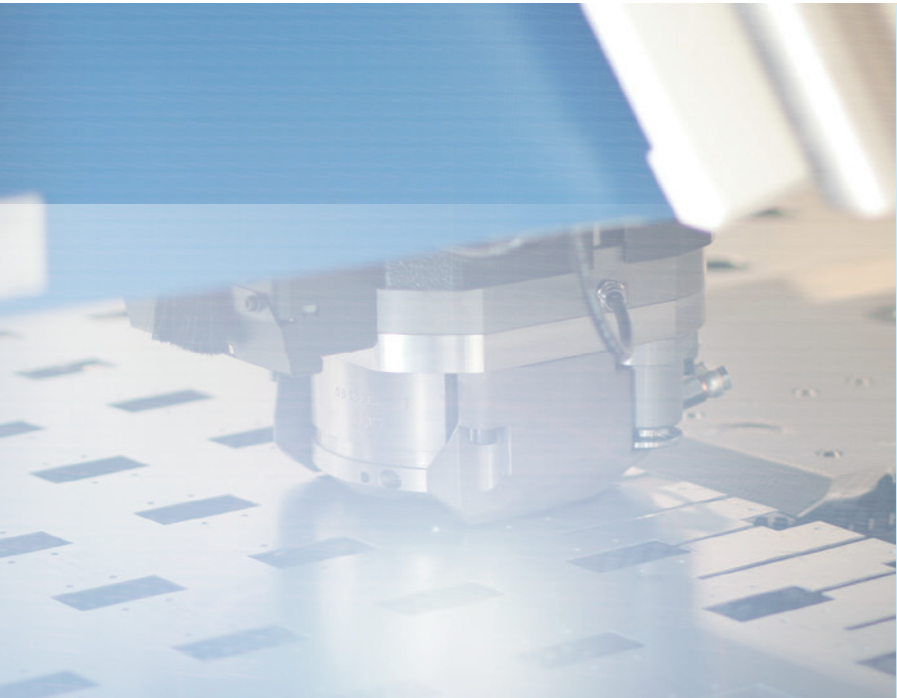


Cutting Machines



Electric Discharge Machines (EDM)





Sawing Machines

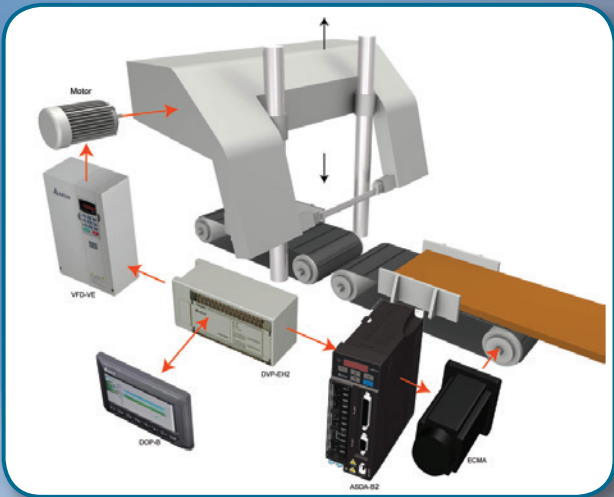


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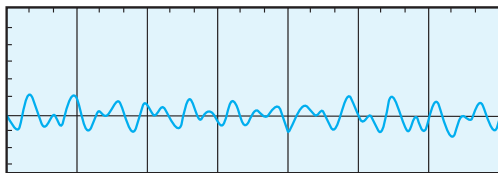


Features

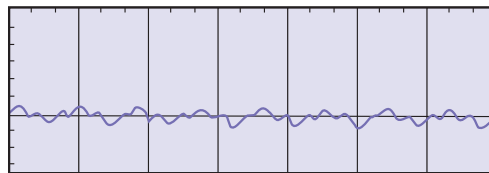
Implements High Precision Positioning Control

- ▶ ASDA-B2 series servo drives support 20-bit and 17-bit encoders. The series satisfies the demand of high-precision positioning control and stable operation at lower speeds.
- ▶ Applying the encoder with a higher resolution can reduce the cogging torque and improve the motor's precision.

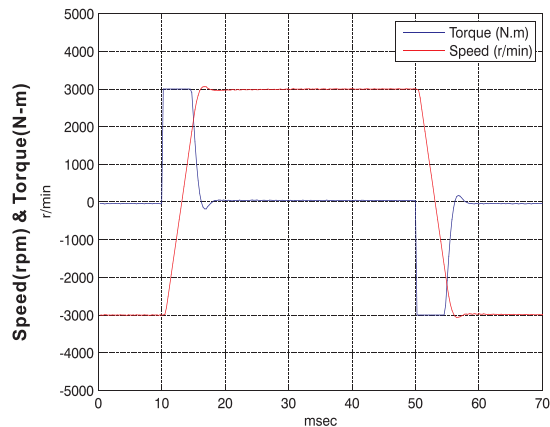
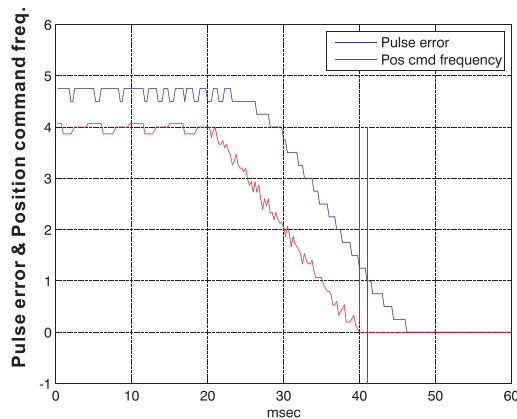
2500ppr of Torque Ripple



17-bit of Torque Ripple



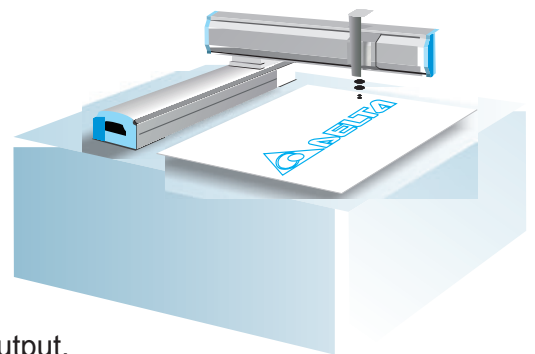
- ▶ Outstanding performance with higher speed: Up to 550Hz frequency response and settling time is below 1ms.
- ▶ 10ms acceleration time from -3000r/min to 3000r/min when running without load.



Example: Servo motor frame sizes 60mm and 400W

Satisfies a Variety of Industry Demands

- ▶ 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 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

Separated power supply for main circuit and control circuit

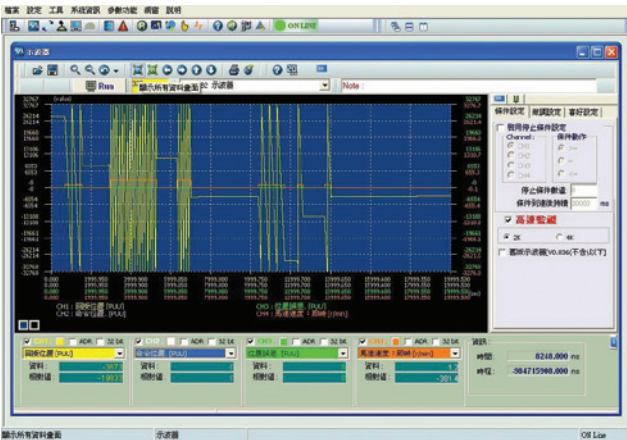


- ▶ ASDA-B series share the same power cables and encoder cables for easy installation and setup without extra accessories.
- ▶ Servo motor provides brake, oil seal, and other optional configurations for different applications.
- ▶ Separated power supply for main circuit and control circuit is easier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

MON1
MON2
Supports two analog outputs

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)



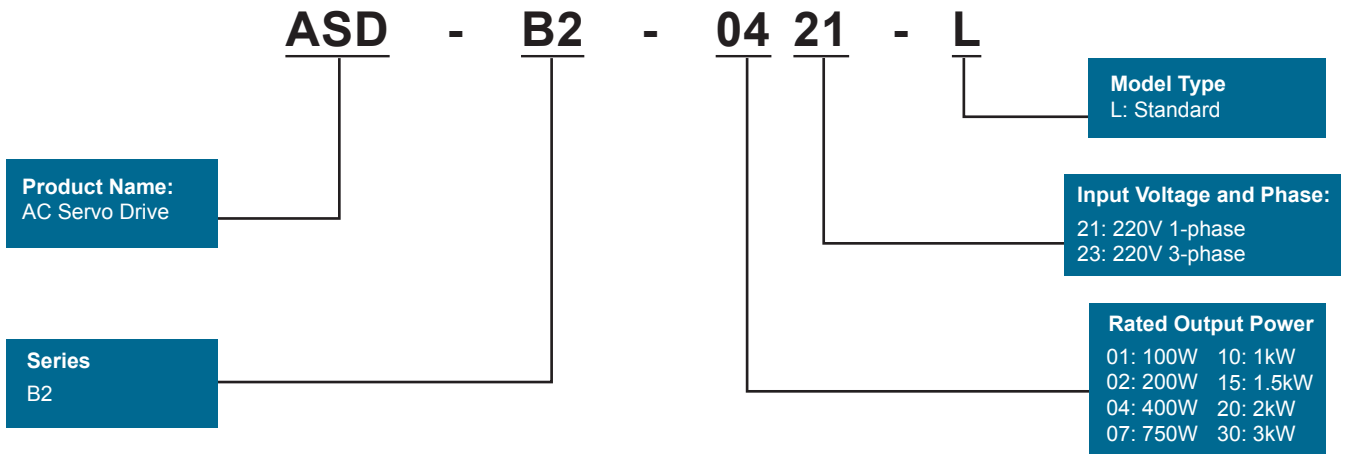
項目	名稱	數據型	單位	最小值	最大值	預設值	說明
P4-00	ASR0	0x00000015		0x00000000	0x0000FFFF	0x00000000	真實位置偏移 (0)
P4-01	ASR1	0x00000015		0x00000000	0x0000FFFF	0x00000000	真實位置偏移 (0+1)
P4-02	ASR2	0x00000015		0x00000000	0x0000FFFF	0x00000000	真實位置偏移 (0+2)
P4-03	ASR3	0x00000015		0x00000000	0x0000FFFF	0x00000000	真實位置偏移 (0+3)
P4-04	ASR4	0x00000015		0x00000000	0x0000FFFF	0x00000000	真實位置偏移 (0+4)
P4-05	XOG	0	rpm	0	5000	20	速度負電位限制
P4-06	POS	0x0000		0x0000	0x00FF	0x0000	絕對位置歸零
P4-07	ITST	0x0000		0x0000	0x00FF	0x0000	數位輸入歸零步數
P4-08	PREY	0x0000		0x0000	0x00FF	0x0000	歸零歸零輸入 (Y) 歸零步數校正
P4-09	PREZ	0x0000		0x0000	0x00FF	0x0000	歸零歸零輸入 (Z) 歸零步數校正
P4-10	CEN	0		0	6	0	校正功能選擇
P4-11	SOPI	0		32767	16382	16382	類比速度輸入 (1) 歸零步數校正
P4-12	SOP2	0		32767	16382	16382	類比速度輸入 (2) 歸零步數校正
P4-13	TOP1	0		32767	16382	16382	類比位置輸入 (1) 歸零步數校正
P4-14	TOP2	0		32767	16382	16382	類比位置輸入 (2) 歸零步數校正
P4-15	COP1	0		32767	16382	16382	電流輸出 (V) 歸零步數校正
P4-16	COF2	0		32767	16382	16382	電流輸出 (V) 歸零步數校正
P4-17	COP3	0		32767	16382	16382	電流輸出 (V) 歸零步數校正
P4-18	COP4	0		32767	16382	16382	電流輸出 (V) 歸零步數校正
P4-19	TR2	0		1	3	2	3287°C 校正步數 (無法選擇)
P4-20	DOPI	0	ms	-800	800	0	類比速度輸入 (1) 歸零步數校正 (無法選擇)
P4-21	DOPI	0	ms	-800	800	0	類比速度輸入 (2) 歸零步數校正 (無法選擇)
P4-22	SAD	0	ms	-5000	5000	0	類比速度輸入 (1) 歸零步數校正 (無法選擇)
P4-23	TAD	0	ms	-5000	5000	0	類比速度輸入 (2) 歸零步數校正
P4-24	LVL	0	ms	-140	140	140	類比速度輸入 (OFF) SET

- ▶ On-line monitoring function for 4 channels (similar to a digital oscilloscope) is available. The monitoring data can be 16-bit (4 channels) and 32-bit (2 channels).
- ▶ Multi-functional parameter editor enables users to edit, modify, upload/download and print desired parameters in real time.

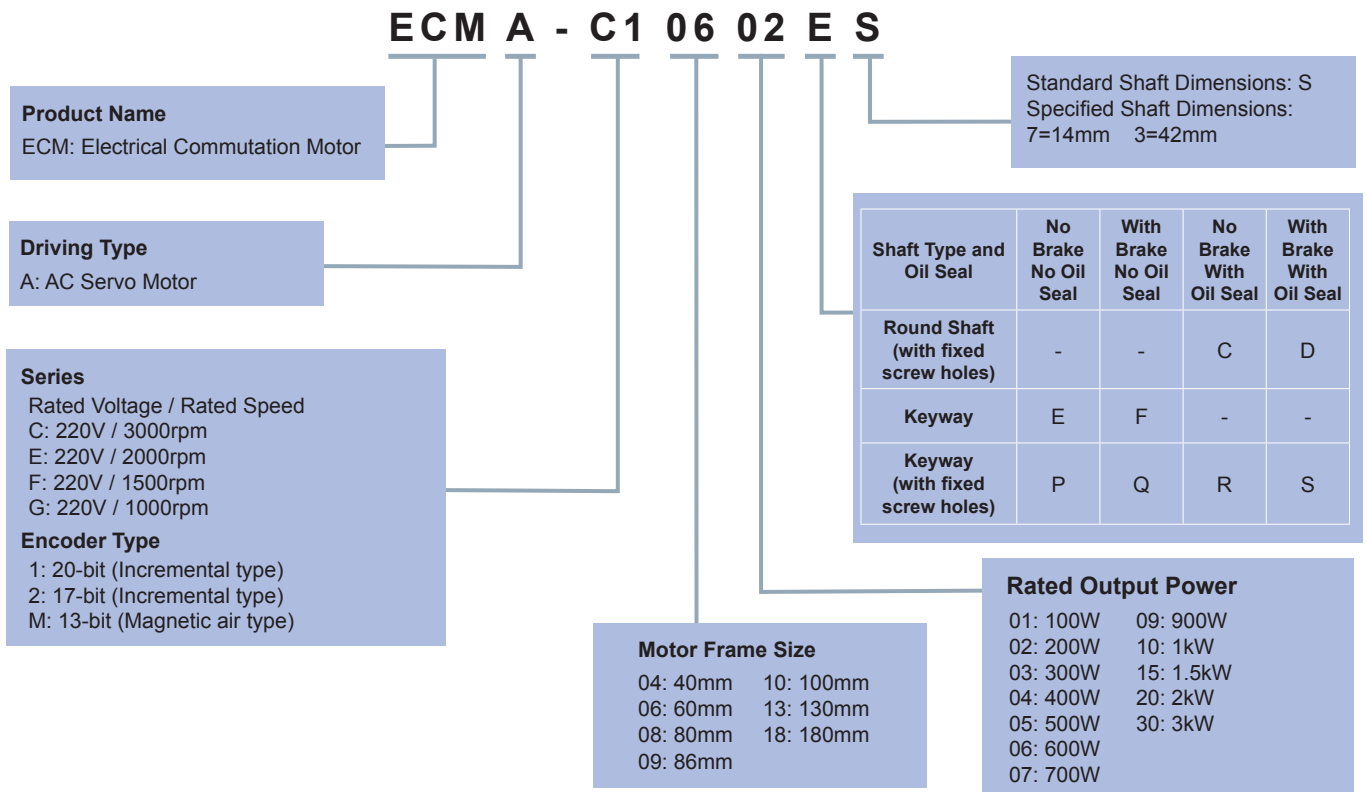


Model Explanation

ASDA-B2 Series Servo Drives



ECMA Series Servo Motors



Product Line-up

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

Servo Motor								
	ECMA-C△0401□S	ECMA-C△0602□S	ECMA-C△0604□S ECMA-C△0604□H ECMA-C△0804□7 ECMA-E△1305□S ECMA-G△1303□S	ECMA-C△0807□S ECMA-C△0807□H ECMA-G△1306□S ECMA-GM1306PS ECMA-C△0907□S	ECMA-C△1010□S ECMA-E△1310□S ECMA-G△1309□S ECMA-GM1309PS ECMA-C△0910□S ECMA-F△1308□S	ECMA-E△1315□S	ECMA-C△1020□S ECMA-F△1313□S ECMA-E△1320□S ECMA-E△1820□S ECMA-F△1318□S	ECMA-E△1830□S ECMA-F△1830□S ECMA-E△1835□S ECMA-C△1330□4

Note:
 1. (□) in the model names represent shaft end/brake or the number of oil seals.
 2. (△) in the model names encoder types (△ =1: Incremental encoder, 20-bit; △ =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 200~230 V_{AC}, 50/60Hz single-phase or three-phase V_{AC} supply.

Main Circuit Terminal (R, S, T)

- Used to connect 200~230 V_{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 opened between P ⊕ and C.
- When using the external braking unit, connect the braking unit to P ⊕ and ⊖, and ensure an open circuit between P ⊕ and D, and P ⊕ and C.
- When using the external brake module, please connect it to P and ⊖.

Ground Terminal





I/O Interface

- Used to connect Delta's DVP series PLC or other external controllers for controlling I/O signals.

Motor Encoder Interface

- Used to connect the encoder.

Serial Communication Port

- Used to connect PLC, HMI, and other controllers for RS-485/RS-232 serial communication.

Reserved

Analog Voltage Output Terminal

- Used to provide two analog monitor outputs, MON1 and MON2.

Heatsink

- Used to secure servo drive and for heat dissipation.

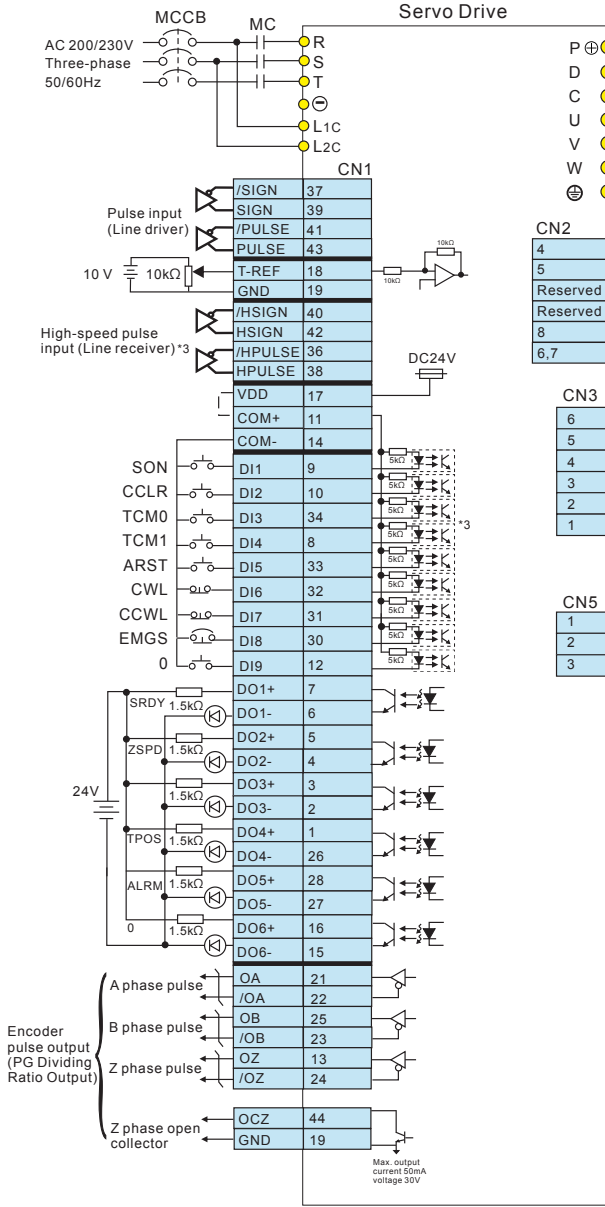
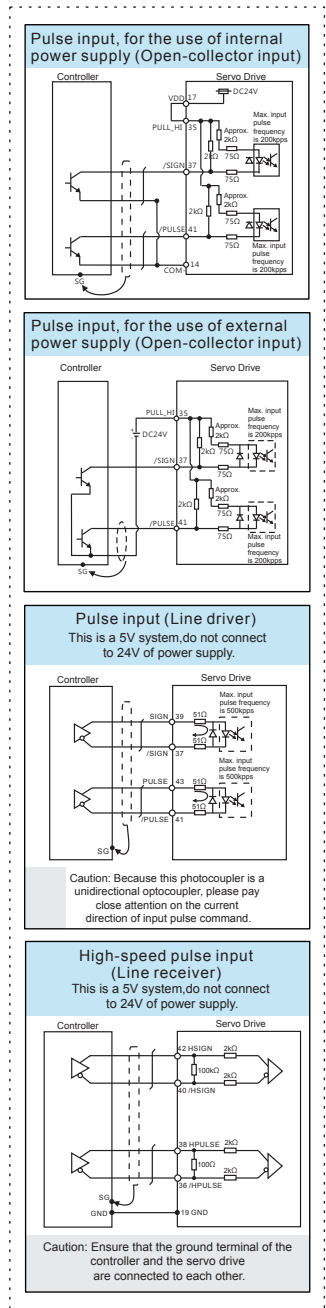


NOTE

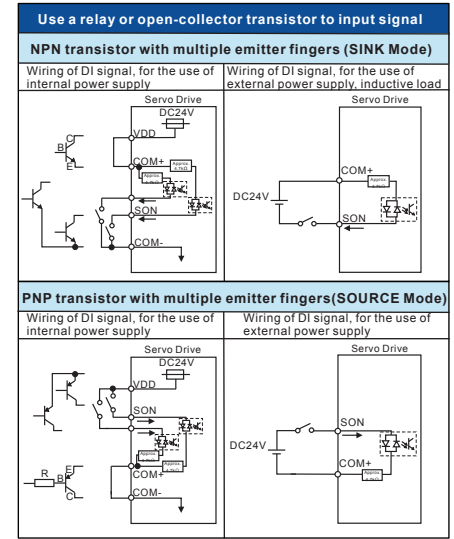
Please note that this only introduces servo drive's basic functions. Specific models may have different functions.

Wiring

Position (Pt) Control Mode (for Pulse Command Input)

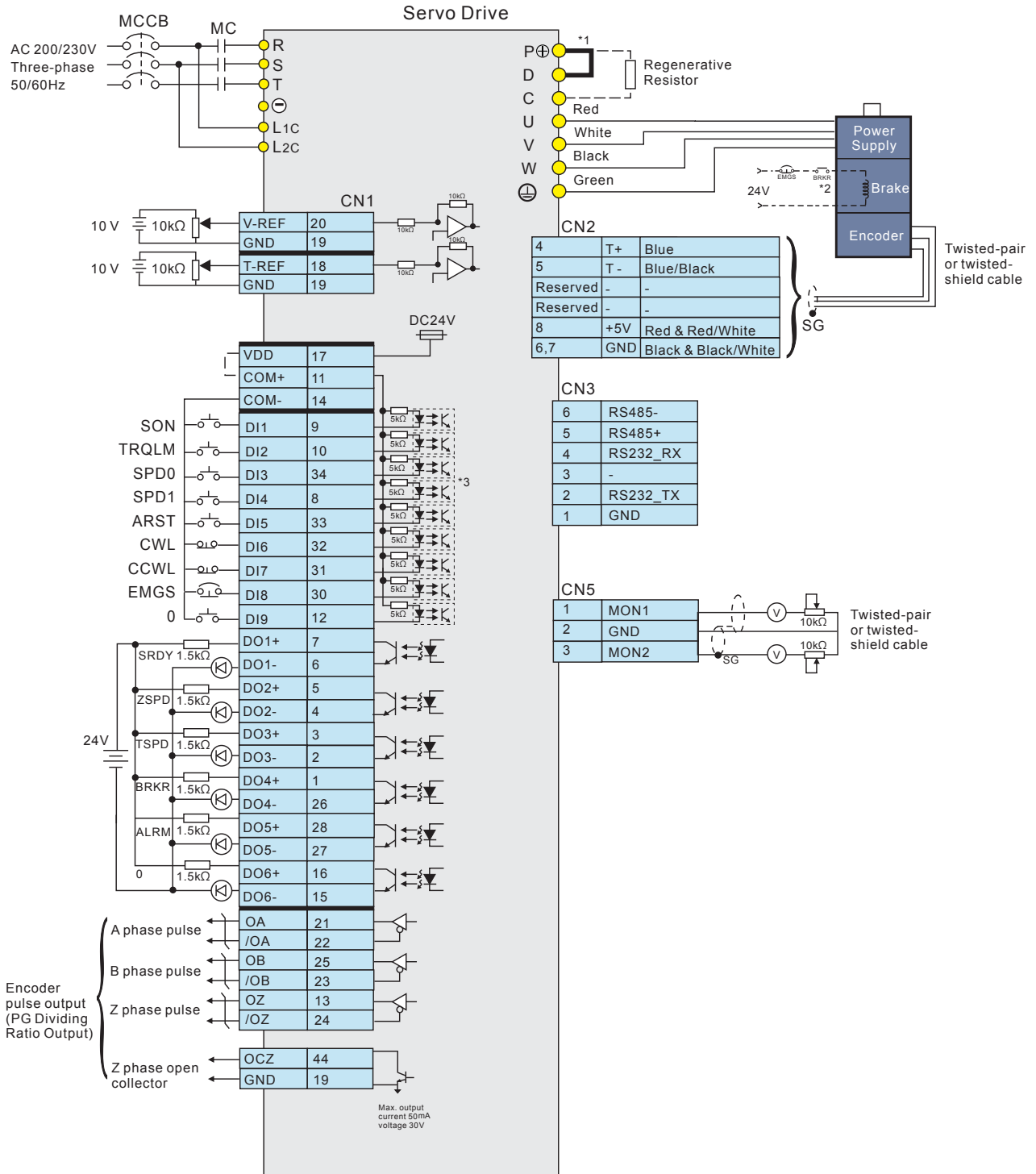


NOTE:
 *1. 200W and below drives do not provide built-in regenerative resistor.
 *2. The brake coil has no polarity.
 *3. Please refer to SINK / SOURCE modes



WARNING Caution: Do not use dual power supply. Failure to observe this caution may damage the servo drive.

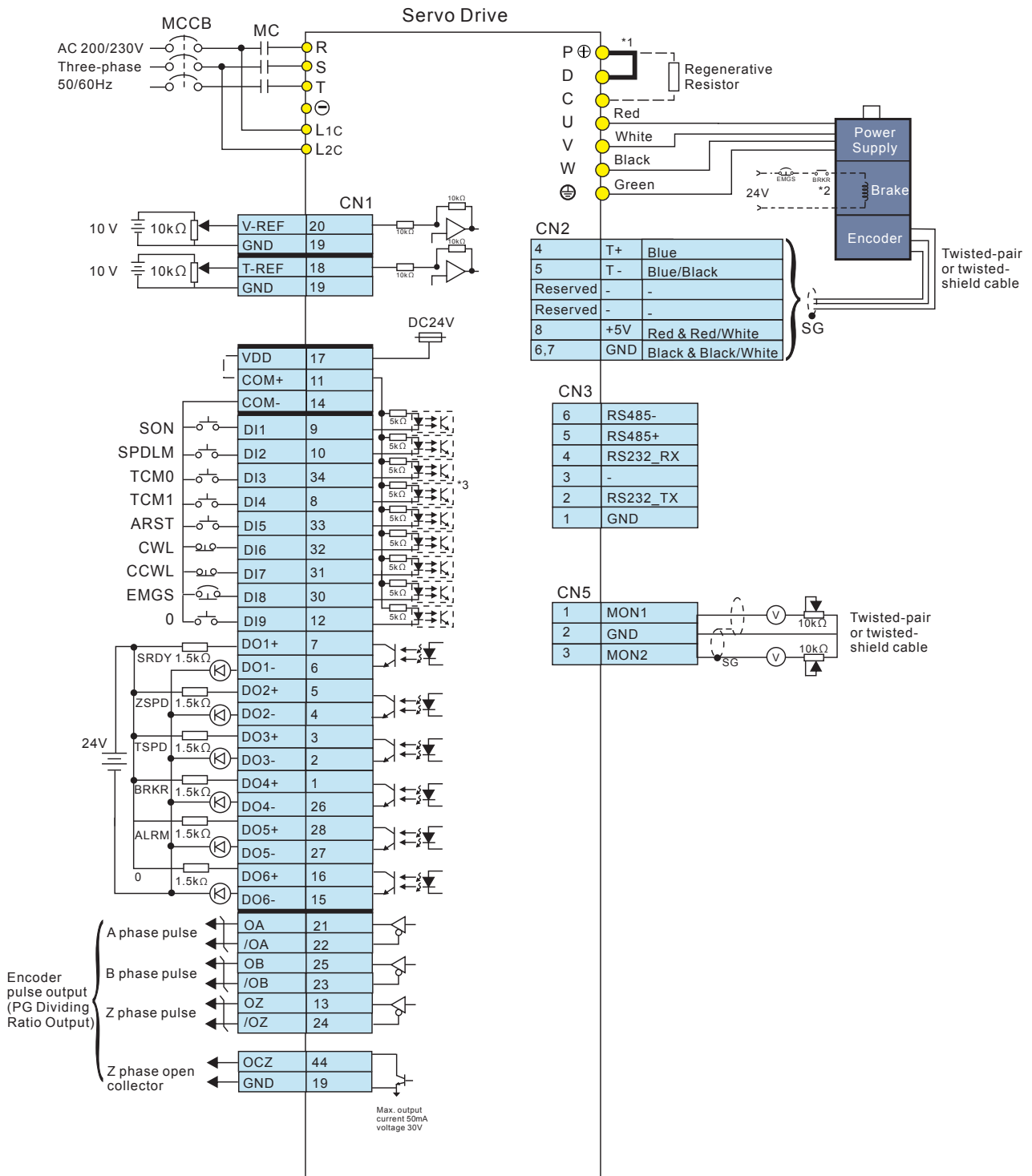
Speed (S) Control Mode



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



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

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 regenerative resistor module.
- 4) When connecting to 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 Class A Group 1, 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	1G less than 20 Hz, 0.6G 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} , 50/60 Hz ±5%		
		Single-phase 200 ~ 255 V _{AC} , 50/60 Hz ±5%								
	Input Current (3PH) (Units: Arms)	0.7	1.11	1.86	3.66	4.68	5.9	8.76	9.83	
	Input Current (1PH) (Units: Arms)	0.9	1.92	3.22	6.78	8.88	10.3	-	-	
	Continuous Output Current (Units: Arms)	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) / 4 Mpps (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 ²⁶ - 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 ~ ±10 V _{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 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									

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 ~ ±10 V _{DC}						
		Input Resistance	10 KΩ						
		Time Constant	2.2 μs						
	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 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 (-4 °F to 149 °F)							
	Humidity	0 to 90% (non-condensing)							
	Vibration	Under 20 Hz, 9.80665 m/s ² (1G), 20 ~ 50 Hz 5.88 m/s ² (0.6 G)							
	IP Rating	IP20							
	Power System	TN System ³							
	Approvals	IEC/EN 61800-5-1    							

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.

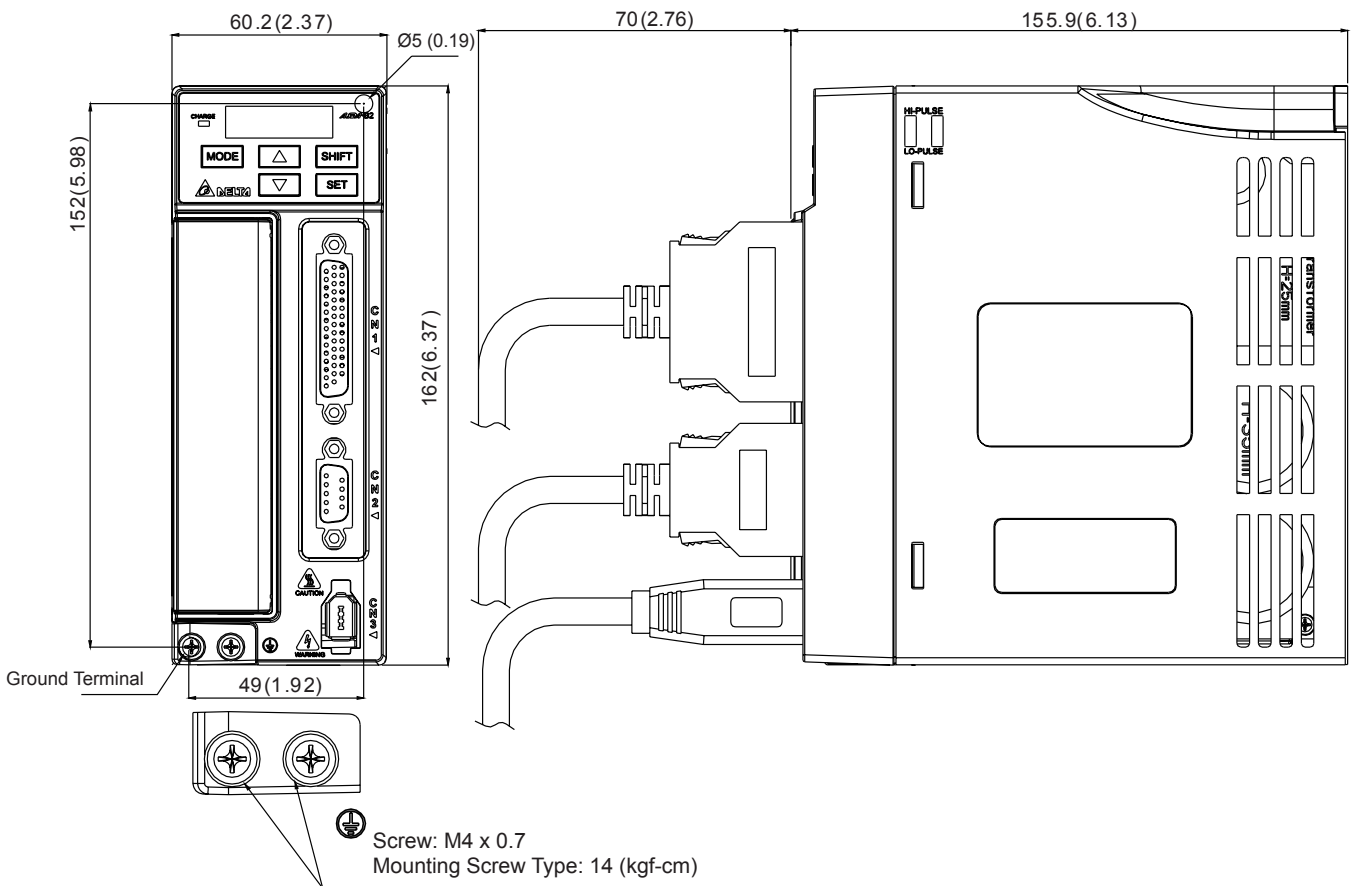
*3. TN system: The neutral point of the power system connects to the ground directly. The exposed metal components connect to the ground via the protective earth conductor.



Dimensions

ASD-B2-1021
ASD-B2-0221
ASD-B2-0421
(100W / 200W / 400W)

Weight
 1.07 (2.36)

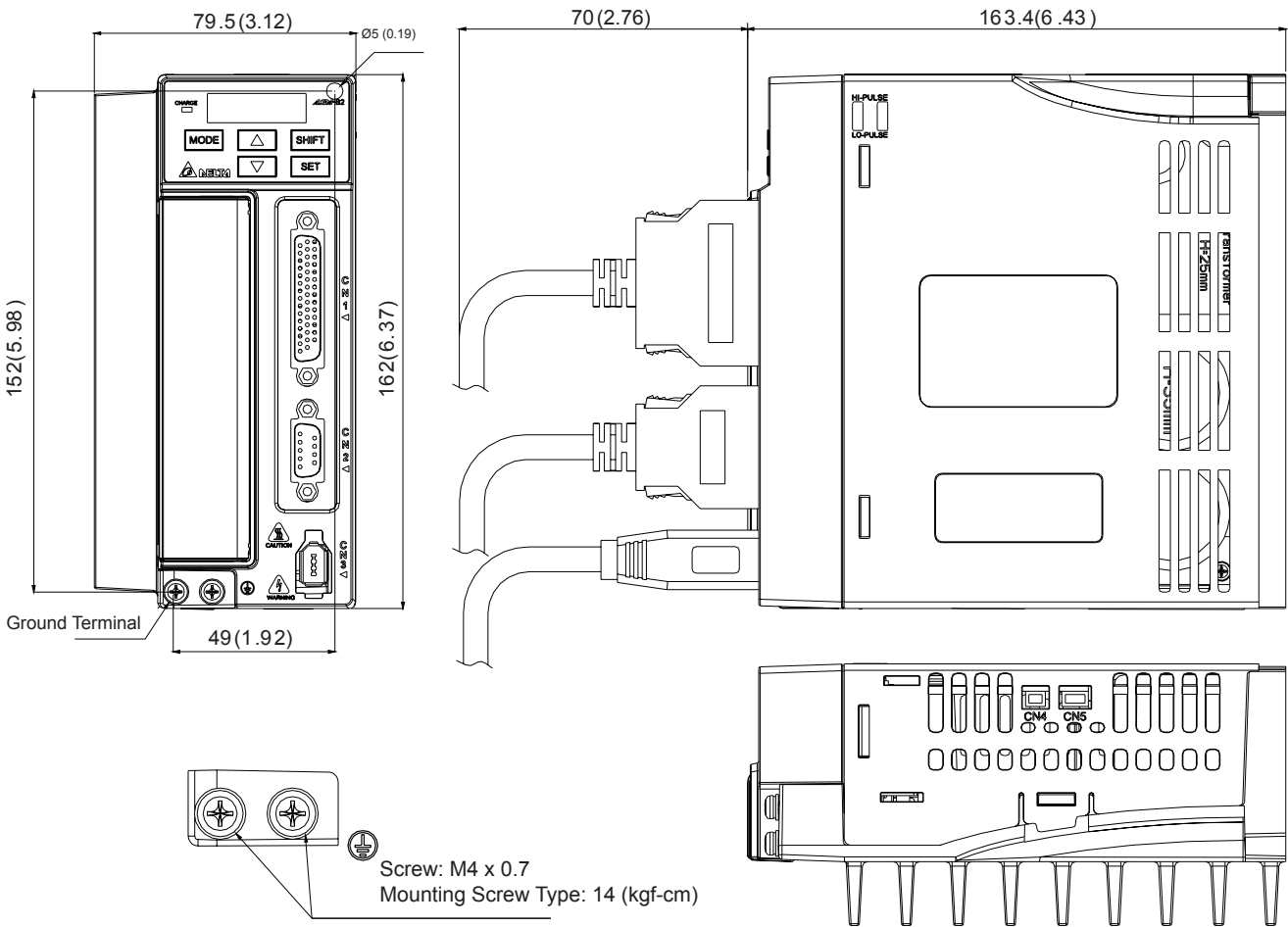


NOTE

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

Dimensions

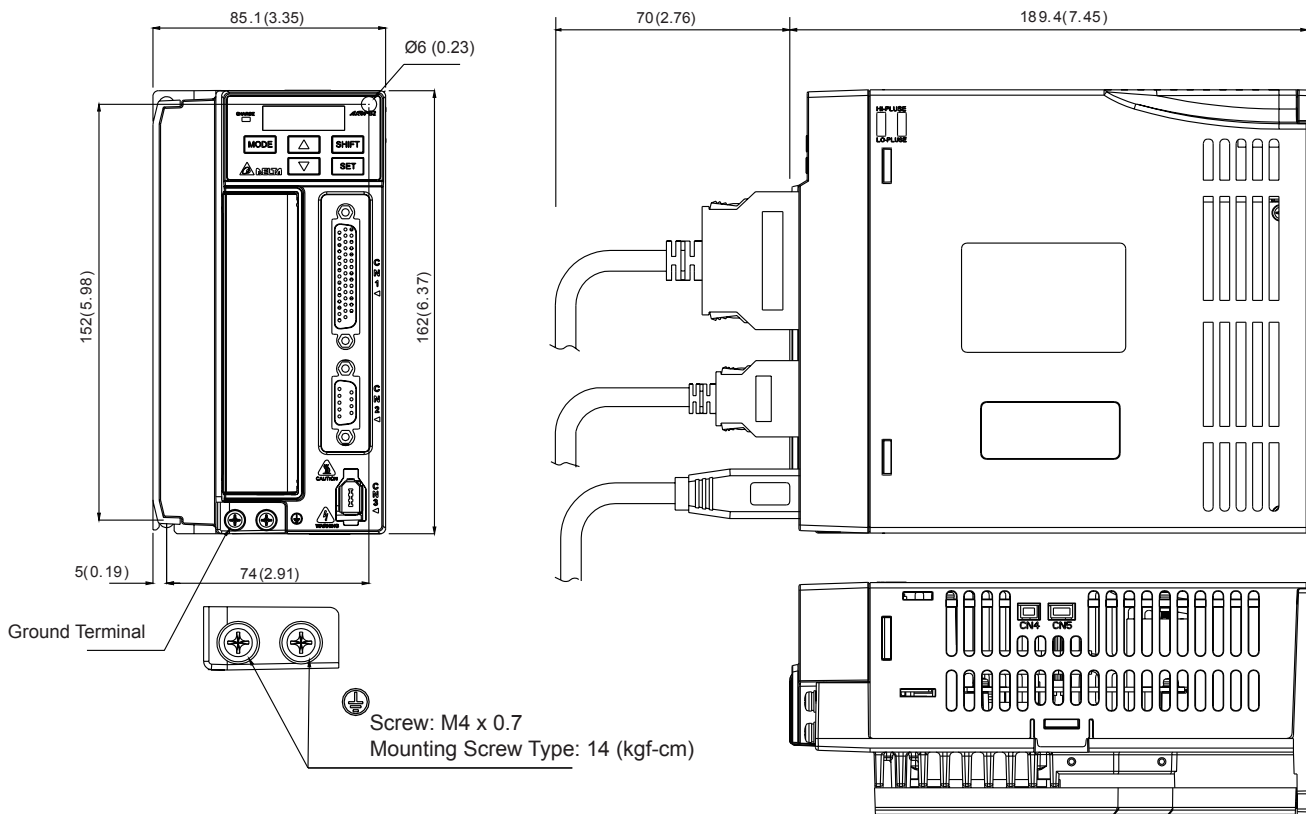
ASD-B2-1021

ASD-B2-1521

(1kW / 1.5kW)

Weight

1.72 (3.79)



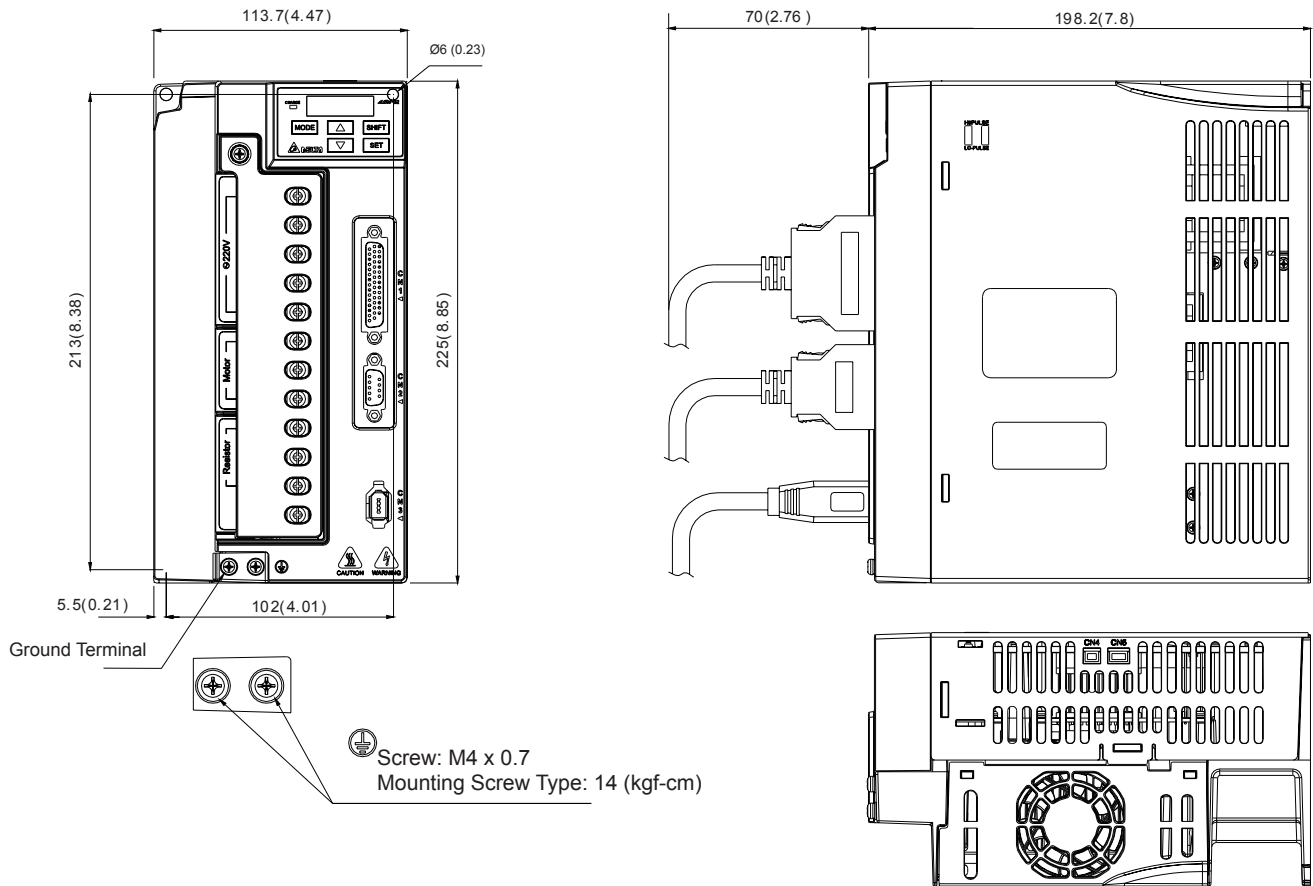
NOTE

- 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)



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

Model: ECMA Series	C△04			C△06			C△08		C△09		C△10		C△13
	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	0.62	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	>100MΩ, 500V _{DC}												
Insulation strength	1.8kV _{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 [Nt-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	2.5G												
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))												
Approvals													

Footnote:

* 1 Rate torque values are continuous permissible values at 0-40°C ambient temperature when attaching with the sizes of heatsinks 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 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	E△13				E△18			G△13		
	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	45.9	62.5	26.3	37.3	50.8	10.0	39.0	66.0
Rotor inertia (x10-4kg-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} , 1 sec									
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 (x10-4kg-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 [Nt-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	2.5G									
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))									
Approvals										

Footnote:

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


- ECMA-__04 / 06 / 08 : 250 mm × 250 mm × 6 mm
- ECMA-__10 : 300 mm × 300 mm × 12 mm
- ECMA-__13 : 400 mm × 400 mm × 20 mm
- ECMA-__18 : 550 mm × 550 mm × 30 mm
- ECMA-__22 : 650 mm × 650 mm × 30 mm

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	FΔ13			FΔ18
	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	>100MΩ, 500 V _{DC}			
Insulation strength	1.8kV _{AC} , 1 sec			
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 [Nt-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	2.5G			
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))			
Approvals				

Footnote:

*1 Rate torque values are continuous permissible values at 0 ~ 40° C ambient temperature when attaching with the sizes of heatsinks 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 Specifications

High Inertia Series

Model: ECMA Series	CΔ06	CΔ08
	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	>100MΩ, 500V _{DC}	
Insulation strength	1.8kV _{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 [Nt-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	2.5G	
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))	
Approvals		

Footnote:

*1 Rate torque values are continuous permissible values at 0 ~ 40° C ambient temperature when attaching with the sizes of heatsinks 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

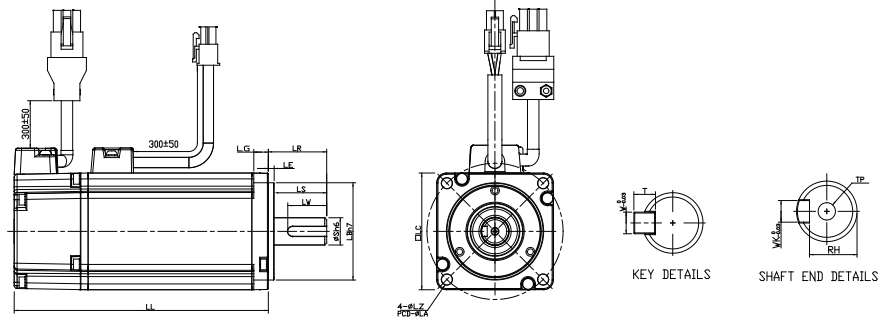
Material type : Aluminum – F40, F60, F80, F100, F130, F180

*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)



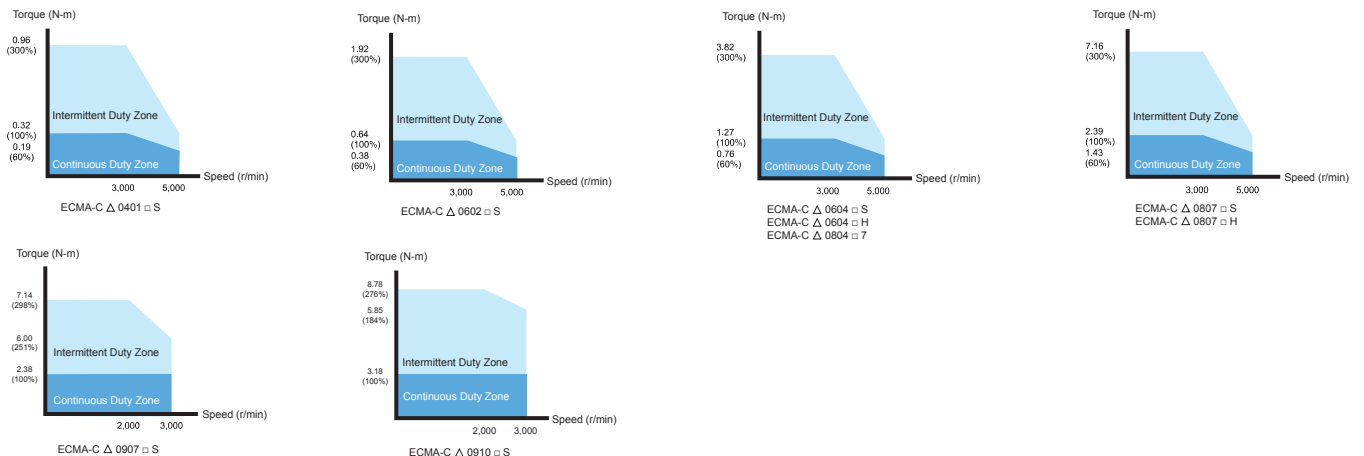
Unit: mm

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	151.1	130.2	153.2
LL (with brake)	136.8	141.6	166.8	176.37	152.8	178	189	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

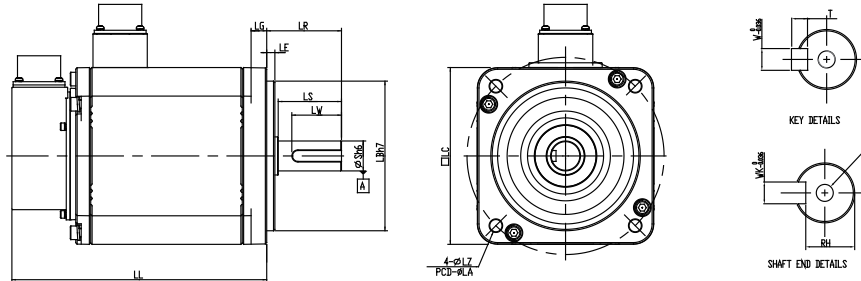


- 1) Dimensions are in millimeters. Actual measured values are in metric units.
- 2) Dimensions of the servo motor may be updated without prior notice.
- 3) The boxes (\square) in the model names represent shaft end/brake or the number of oil seal.
- 4) The boxes (Δ) in the model names represent encoder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

Speed-Torque Curves (T-N Curves)



Motors - Frame Size 100mm ~ 130mm (Units: mm)



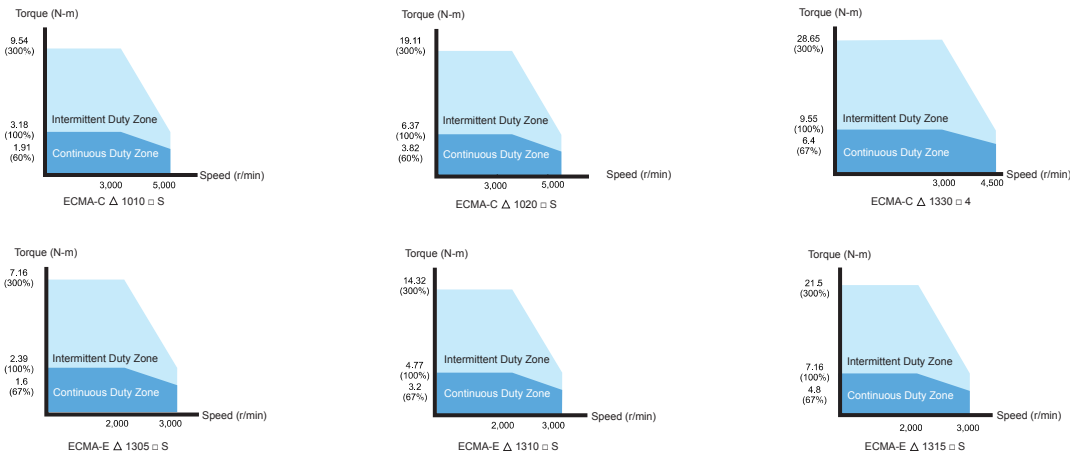
Unit: mm

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 (不帶煞車)	153.3	199	187.5	147.5	147.5	167.5
LL (帶煞車)	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



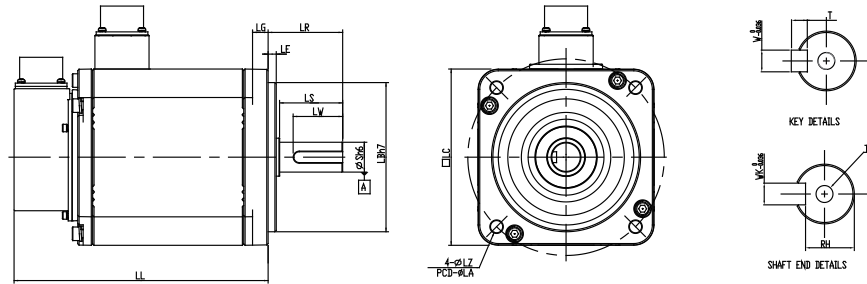
- 1) Dimensions are in millimeters. Actual measured values are in metric units.
- 2) Dimensions of the servo motor may be updated without prior notice.
- 3) The boxes (\square) in the model names represent shaft end/brake or the number of oil seal.
- 4) The boxes (Δ) in the model names represent encoder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

Speed-Torque Curves (T-N Curves)



Servo Motor Dimensions

Motors - Frame Size 100mm ~ 130mm (Units: mm)



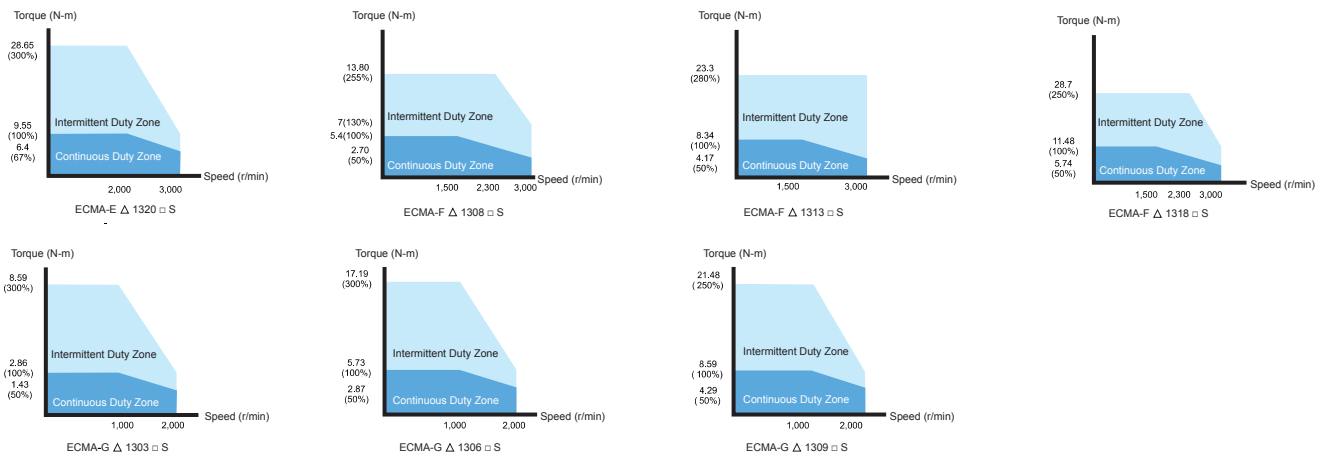
Unit: mm

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

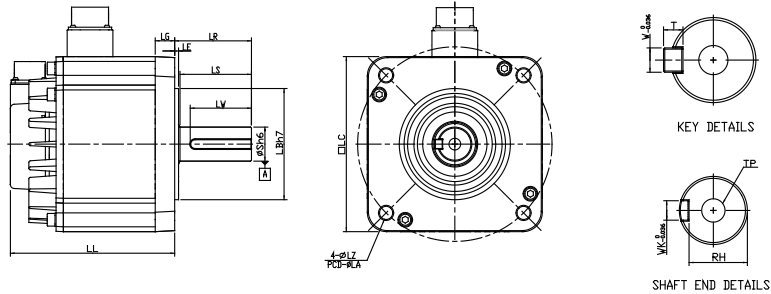


- 1) Dimensions are in millimeters. Actual measured values are in metric units.
- 2) Dimensions of the servo motor may be updated without prior notice.
- 3) The boxes (\square) in the model names represent shaft end/brake or the number of oil seal.
- 4) The boxes (Δ) in the model names represent encoder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

Speed-Torque Curves (T-N Curves)



Motors - Frame Size 180mm (Units: mm)



Unit: mm

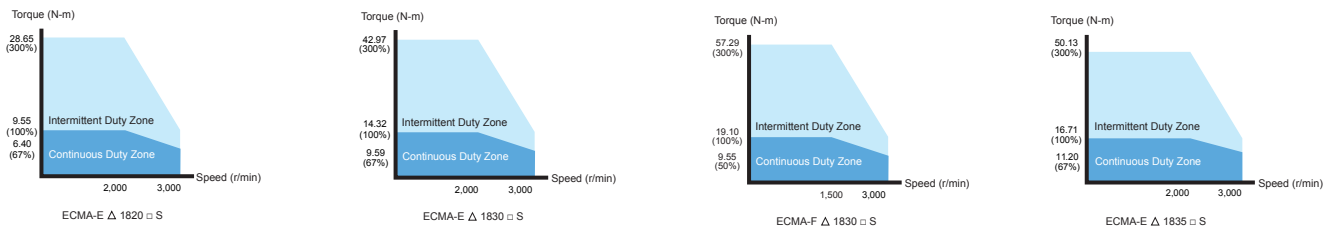
Model	E Δ 1820 \square S	E Δ 1830 \square S	F Δ 1830 \square S	E Δ 1835 \square S
LC	180	180	180	180
LZ	13.5	13.5	13.5	13.5
LA	200	200	200	200
S	35 ⁺⁰ / _{-0.016}	35 ⁺⁰ / _{-0.016}	35 ⁺⁰ / _{-0.016}	35 ⁺⁰ / _{-0.016}
LB	114.3 ⁺⁰ / _{-0.035}	114.3 ⁺⁰ / _{-0.035}	114.3 ⁺⁰ / _{-0.035}	114.3 ⁺⁰ / _{-0.035}
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



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)



Optional Accessories

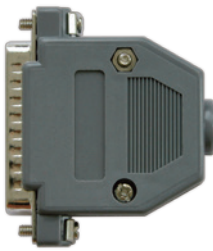
Power Cables

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



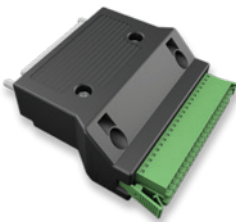
CN1 I/O Connectors

- 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.

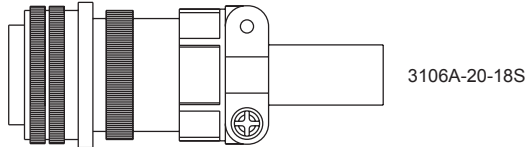
Optional Accessories

Power Connectors

ASDBCAPW0000

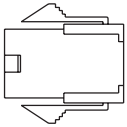


ASD-CAPW1000

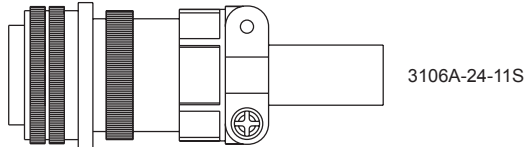


3106A-20-18S

ASDBCAPW0100



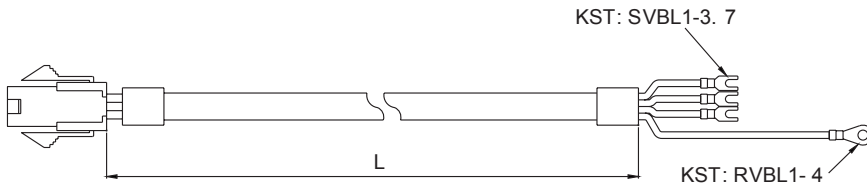
ASD-CAPW2000



3106A-24-11S

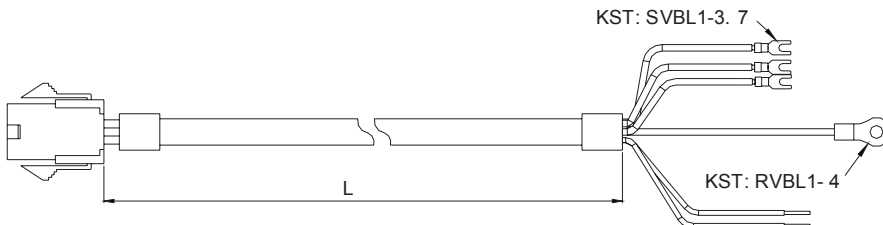
Power Cables

ASDBCAPW0203/0205



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

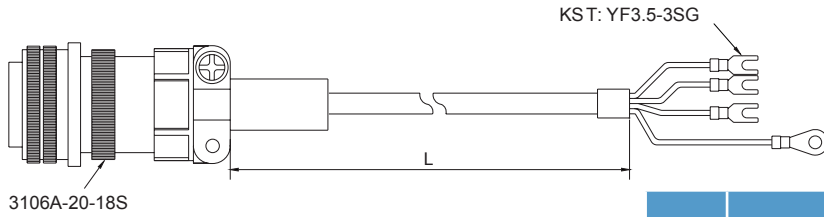
ASDBCAPW0303/0305



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

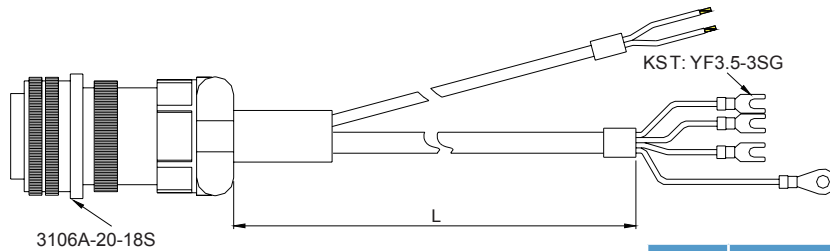
Power Cables

ASDBCAPW1203/1205



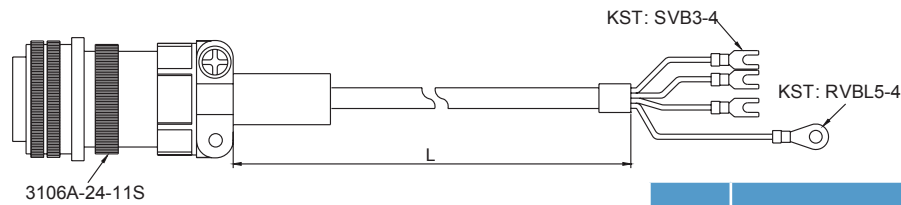
Item	Part No.	Straight	L	
			mm	inch
1	ASDBCAPW1203	3106A-20-18S	3000 ± 50	118 ± 2
2	ASDBCAPW1205	3106A-20-18S	5000 ± 50	197 ± 2

ASDBCAPW1303/1305



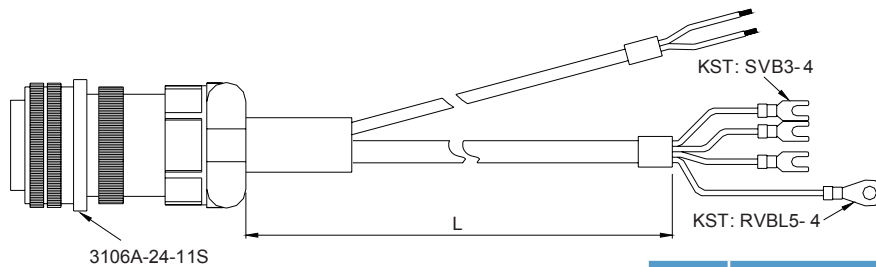
Item	Part No.	Straight	L	
			mm	inch
1	ASDBCAPW1303	3106A-20-18S	3000 ± 50	118 ± 2
2	ASDBCAPW1305	3106A-20-18S	5000 ± 50	197 ± 2

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



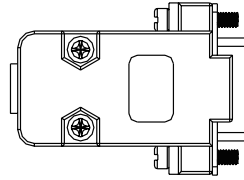
Item	Part No.	Straight	L	
			mm	inch
1	ASD-CAPW2303	3106A-24-11S	3000 ± 50	118 ± 2
2	ASD-CAPW2305	3106A-24-11S	5000 ± 50	197 ± 2

Optional Accessories

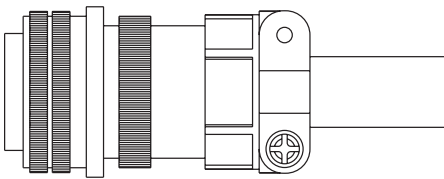
Encoder Connectors

ASDBCAEN0000

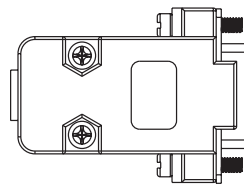
D-SUB Connector 9P



ASDBCAEN1000



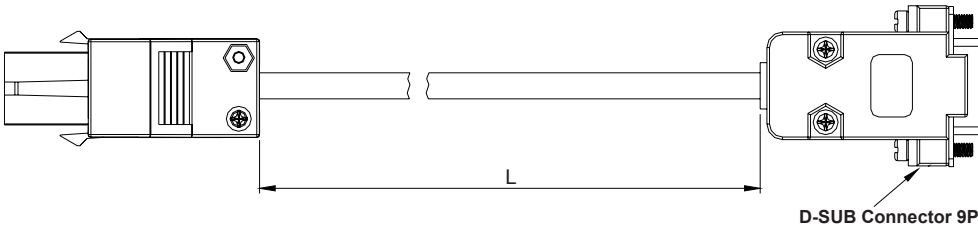
3106A-20-29S



D-SUB Connector 9P

Encoder Cables

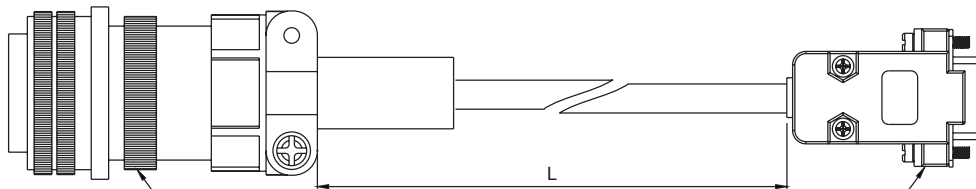
ASDBCAEN0003/0005



D-SUB Connector 9P

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

ASDBCAEN1003/1005



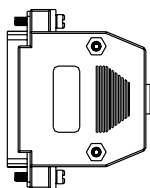
3106A-20-29S

D-SUB Connector 9P

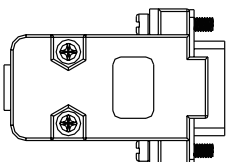
Item	Part No.	Straight	L	
			mm	inch
1	ASDBCAEN1003	3106A-20-29S	3000 ± 50	118 ± 2
2	ASDBCAEN1005	3106A-20-29S	5000 ± 50	197 ± 2

I/O Signal Connector

ASD-BCNDS0044
D-SUB 44 PIN PLUG

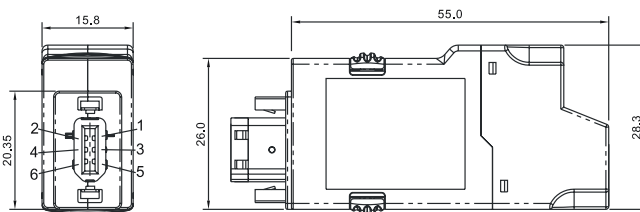


ASD-BCAEN1000
D-SUB 15 PIN PLUG



RS-485 Connector Dimensions are in mm

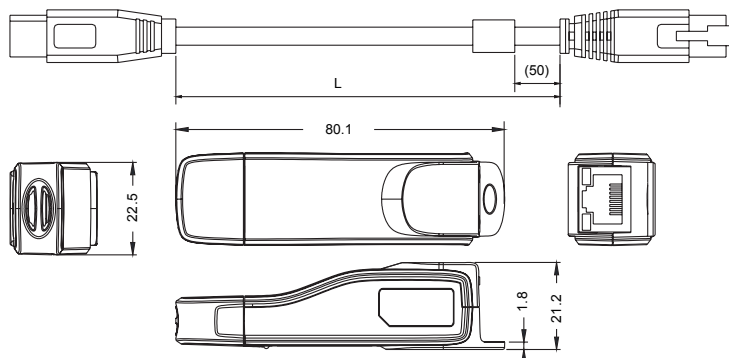
ASD-CNIE0B06



- 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

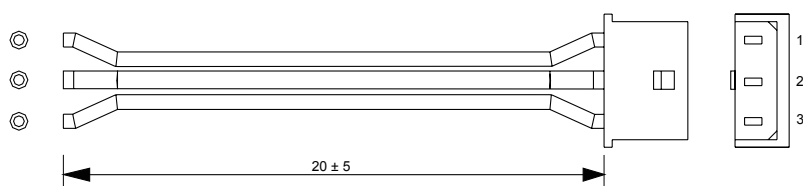
ASD-CNUS0A08



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)

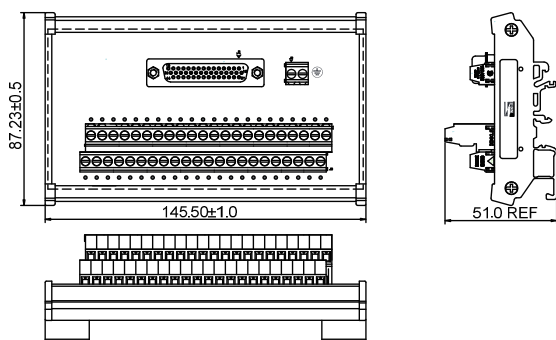
Voltage Output Cable (Analog Signal) Dimensions are in mm

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 △ 0401 □ 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 △ 0602 □ 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 △ 0604 □ S ECMA-C △ 0804 □ 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 △ 0604 □ 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 △ 1305 □ 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 △ 1303 □ 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 △ 1306 □ 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 △ 0807 □ S ECMA-C △ 0907 □ 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 △ 0807 □ 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 △ 1308 □ 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 △ 1010 □ 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 △ 0910 □ 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 △ 1320 □ 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 △ 1820 □ 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 □ 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 □ 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 \triangle 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 \triangle 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 \triangle 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 \triangle 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



Smarter. Greener. Together.

Industrial Automation Headquarters

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