



Automation for a Changing World

Delta AC Servo Drive & Motor ASDA-B3 Series

Delta Standard Servo System ASDA-B3

High Efficiency, User-Friendly, and Stable

The high tolerance and stable operation of the Delta standard servo system ASDA-B3 series creates a highly efficient and user-friendly operation environment with precise motion control functions that optimize production efficiency and output value.

With the best motion control solutions, Delta boosts industry momentum and works with customers to create an innovative future.





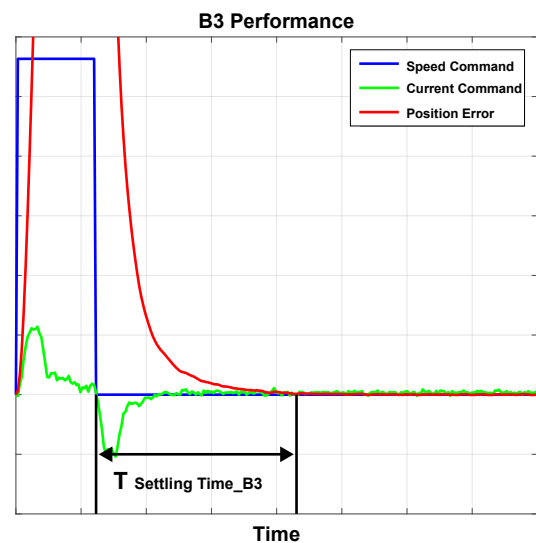
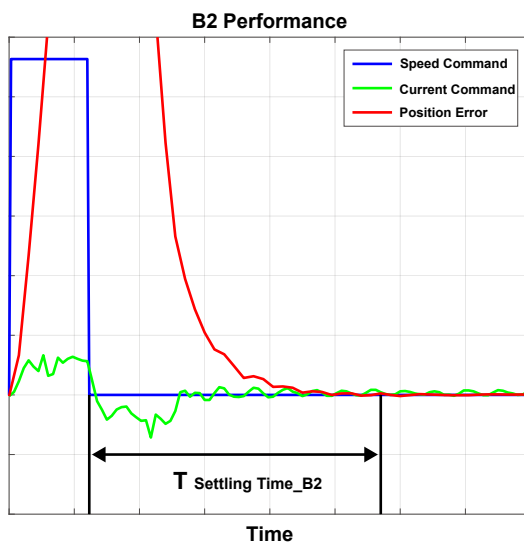
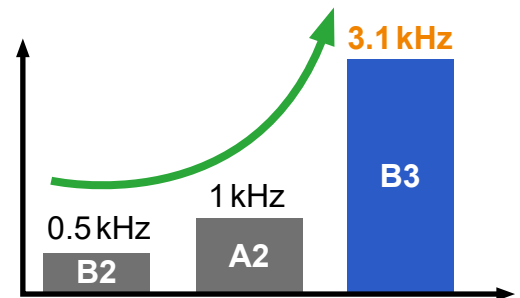
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Optimized Performance

High Response Bandwidth

- Higher responsiveness: From 0.5 kHz of the B2 series to 3.1 kHz of the B3 series
- Increased productivity: Settling time reduced by 40%



Higher Load Tolerance

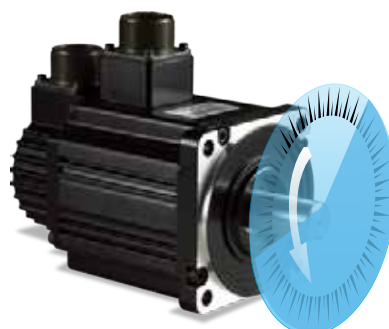
- Enhances positioning precision with a resolution of 16,777,216 pulses per revolution
- Higher response bandwidth with the same load conditions

	B2	B3	B2	B3	B2	B3
Actual Load Inertia Ratio	30 times		50 times		70 times	
Speed Loop Bandwidth in Position Mode	Approx. 150 Hz	Approx. 250 Hz	Approx. 30 Hz	Approx. 150 Hz	Max. performance	Approx. 20 Hz

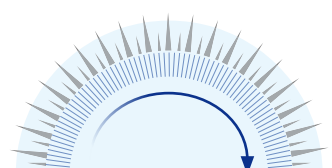
24-bit Absolute Encoder

- Enhances positioning precision with a resolution of 16,777,216 pulses per revolution
- Stable operation at low speeds improves machine performance
- Absolute encoder retains the motor's position when the power is off

16,777,216 pulses for one single turn

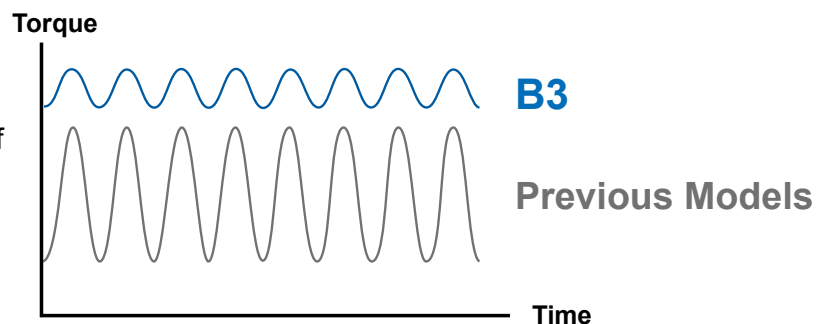


46,603 pulses in one degree



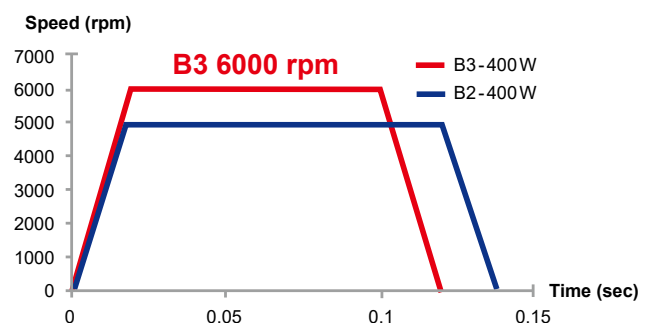
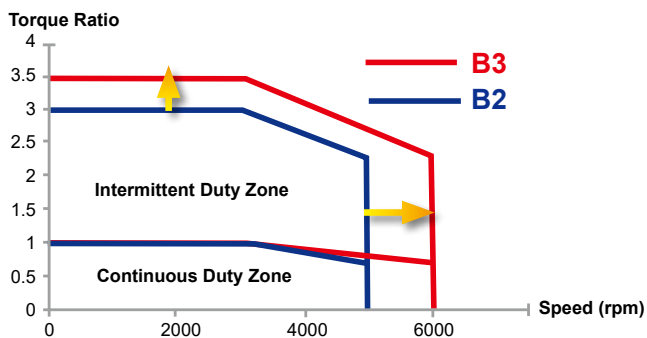
Low Cogging Torque

The cogging torque is 50% of previous models which increases the smoothness of constant speed operation and low speed machining.



Increased Speed and Torque

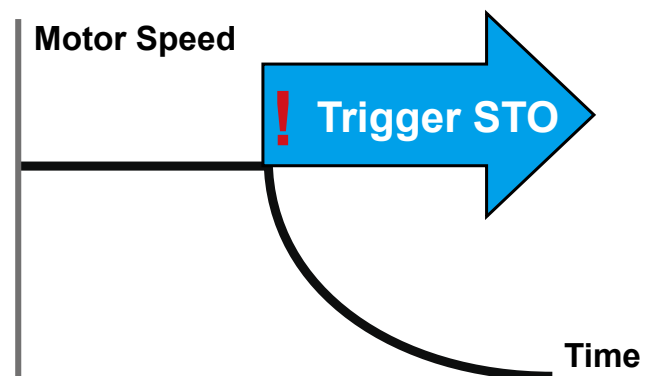
- Motor speed increased to 6,000 rpm
- Torque overload ratio increased to 3.5 times and the time required for acceleration and deceleration is shortened
- Significantly increases productivity and efficiency



Safe Torque Off (STO) Function

- Built-in STO function ensures personnel safety
- Complies with IEC/EN 61800-5-2
- SIL2 Level

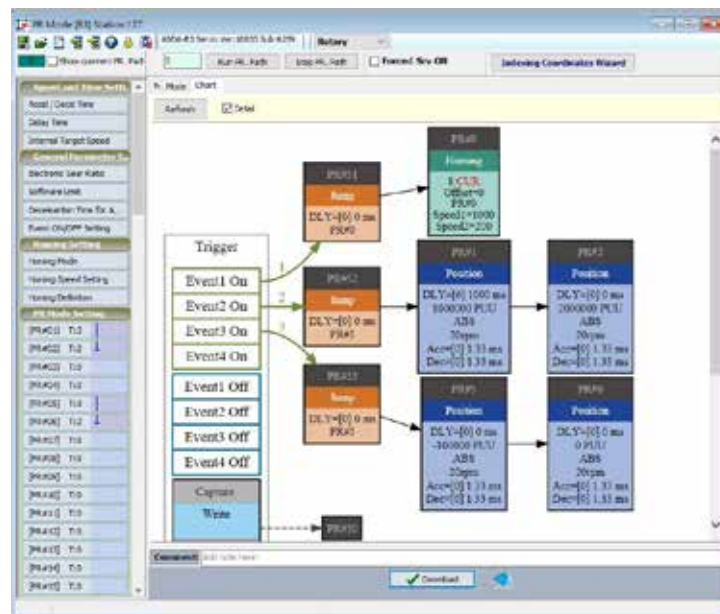
Note: STO certification in process



Various Motion Functions

PR Mode

- Supports up to 99 PR paths for flexible motion command planning
- Intuitive operation interface with graphics
- Homing modes, Position commands, and Speed commands
- Overlap command, Interrupt command, Jump command, and parameter settings



High-Speed Capture Function

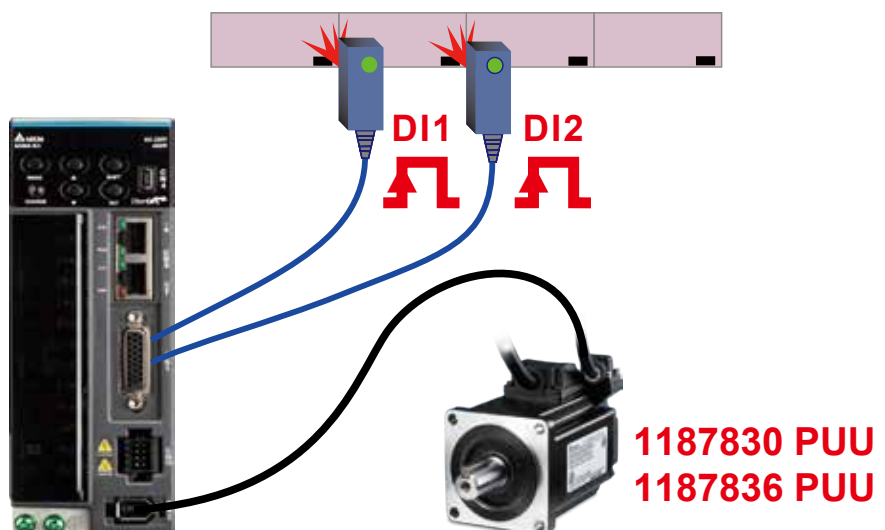
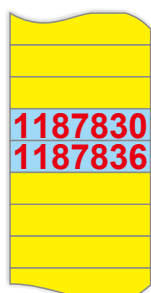
- Supports the Capture function for instantly capturing position coordinates with one set of DI
- Supports the Touch Probe function with two sets of DIs in the EtherCAT communication mode

Note:

Capture function: DI4 (B3-F, B3-M), DI7(B3-L)

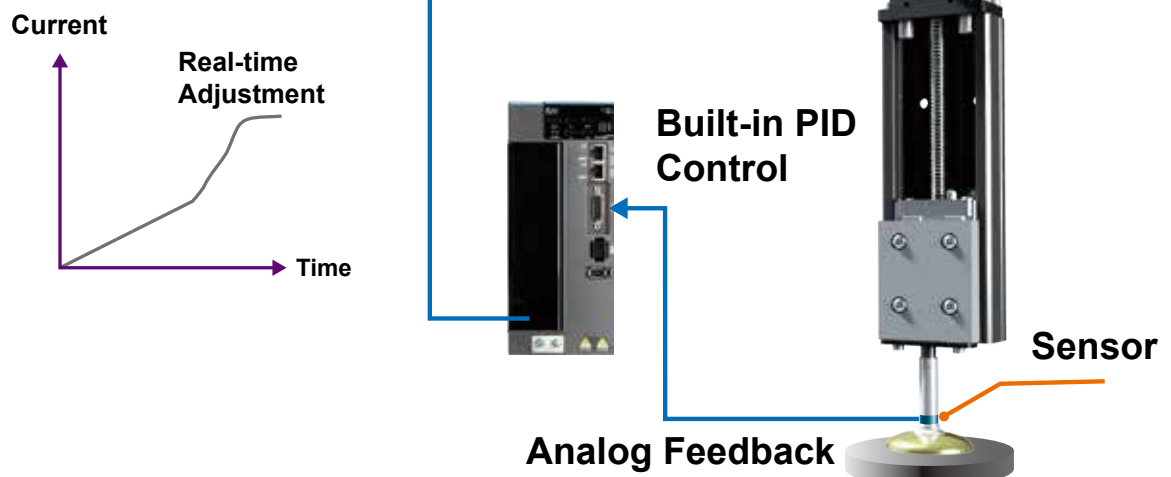
Touch Probe function: DI1, DI2 (B3-E)

Data Array



Analog Feedback PID Control

- Supports analog signal input
- Real-time and precise PID control enabled by the analog signals from the external sensor improves production yield and processing performance.

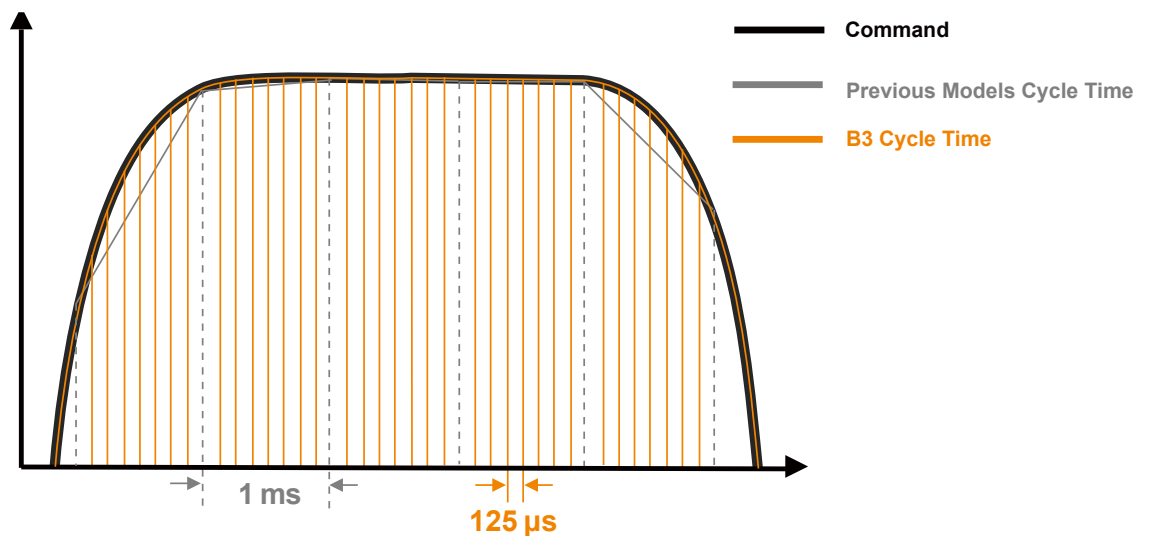


EtherCAT Communication Functions

Complies with the IEC 61158 and IEC 61800-7 fieldbus standards

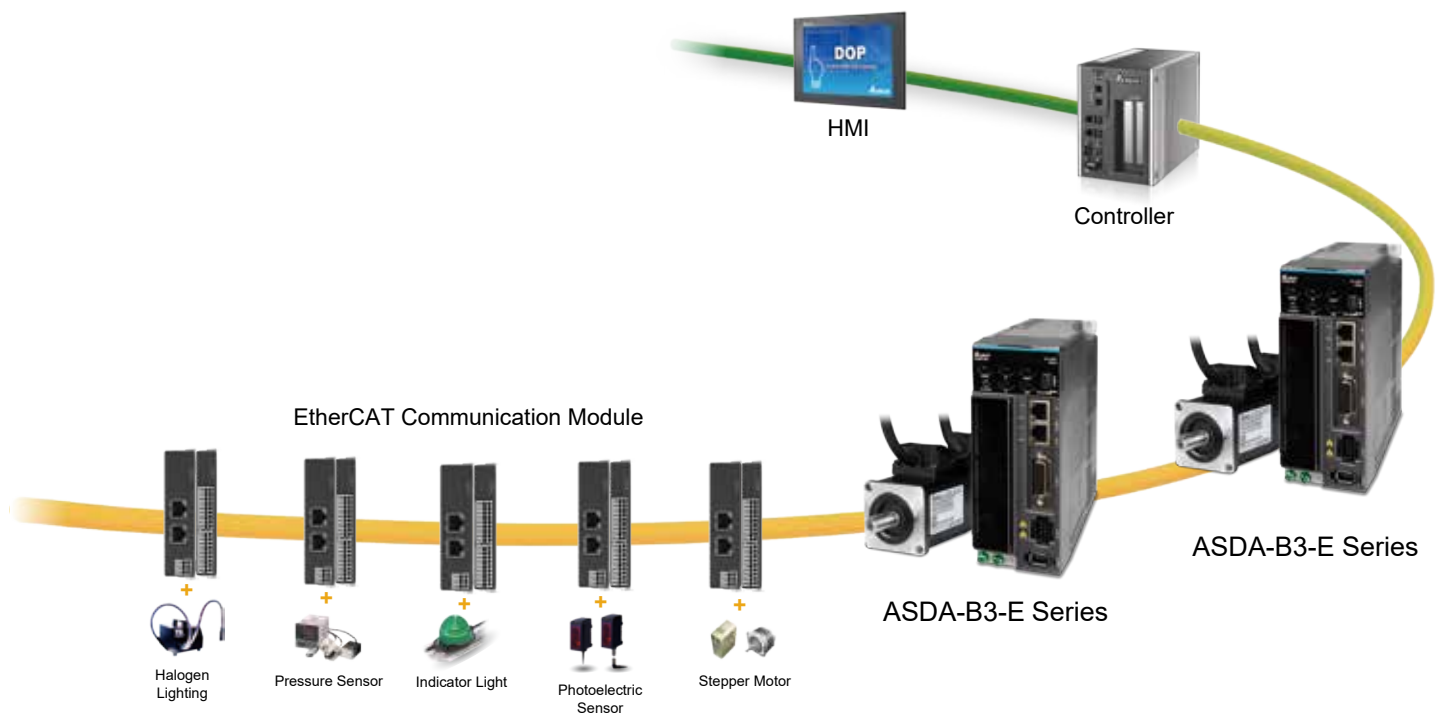
Shorter Synchronization Cycle

- The synchronization cycle of the ASDA-B3 series is 125 μ s, which is 8 times faster than that of the ASDA-A2 series



Simplified Wiring

In contrast to single-axis pulse wiring which is complicated and difficult to repair, the EtherCAT high-speed communication greatly reduces the wiring and inspection time. It is suitable for multi-axis control and can also connect remote I/O modules with a single wiring.



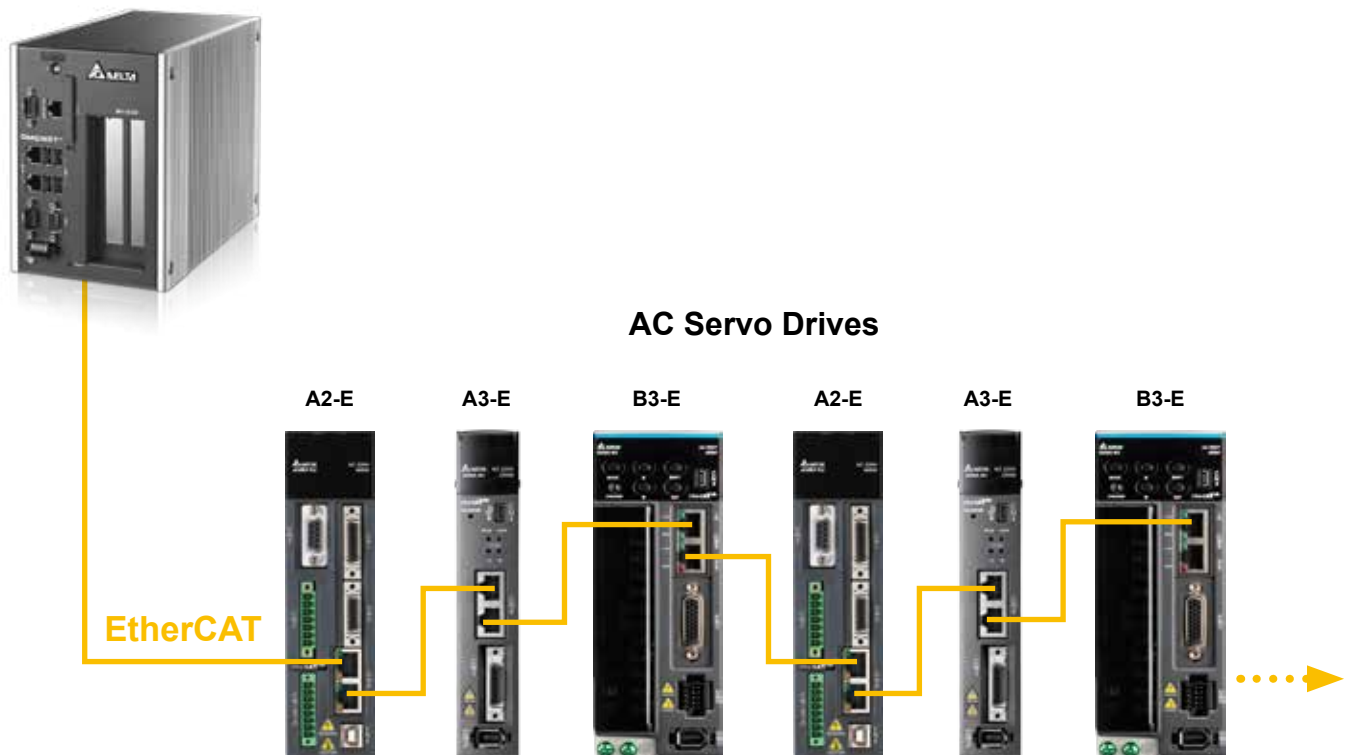
Longer Connection Distance

The maximum distance between two servo stations is 100 m and a maximum of 65,536 axes can be connected.

Compatible with Previous Models

The ASDA-B3 series models are compatible with the ASDA-A2 and ASDA-A3 series.

Note: The communication cycle of the A2 series is 1 ms, so when previous and new models are used together, the set value cannot be lower than this specification

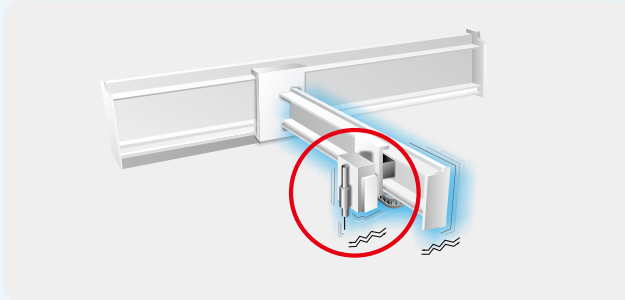


Vibration Suppression Functions

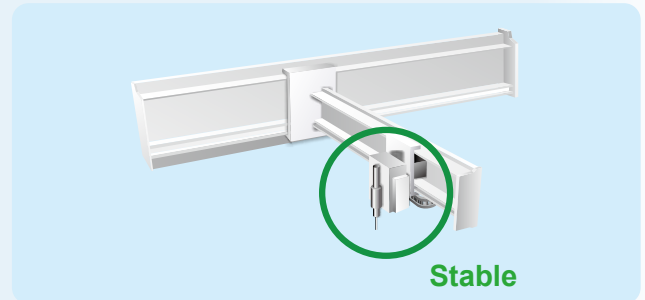
Vibration Elimination

- Low frequency vibration suppression applies Delta's unique algorithm to adjust low rigidity machine structures
- Two sets of built-in vibration elimination settings reduce jitter at the machine endpoint while maintaining a good command response

Without Vibration Elimination - Machine endpoint vibrates when settling



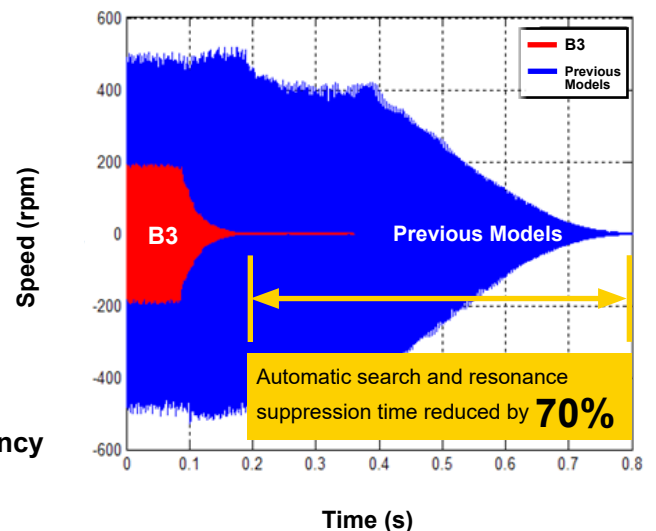
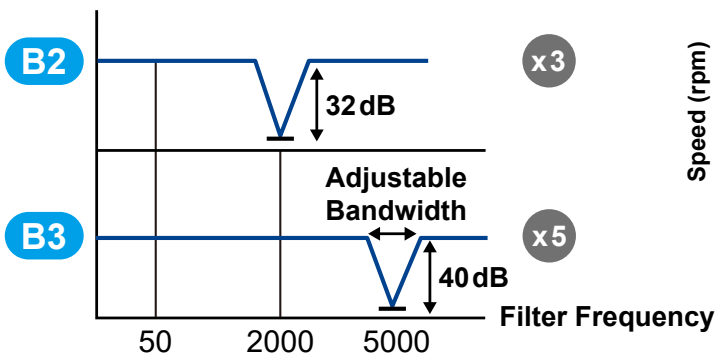
With Vibration Elimination - Machine endpoint is stable when settling



Advanced Notch Filter

- High frequency resonance suppression increased from 3 sets to 5 sets compared with previous models
- Filter bandwidth increased to 5,000 Hz
- Automatically searches for the resonance frequency point and completes the resonance suppression; this reduces the time by 70% compared with previous models and is less likely to damage the machine

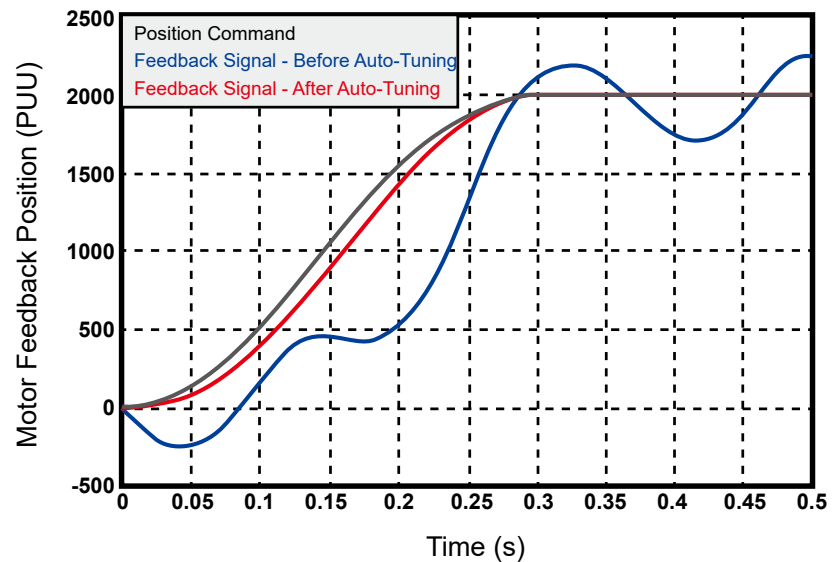
Attenuation Rate



Self-Diagnosis and Adaptation

Excellent Self-Adjusting Capability

- Dedicated algorithm allows easy tuning with simple settings, which improves the efficiency of equipment assembly and testing.
- Suitable for applications with flexible machine structures and large variations in inertia



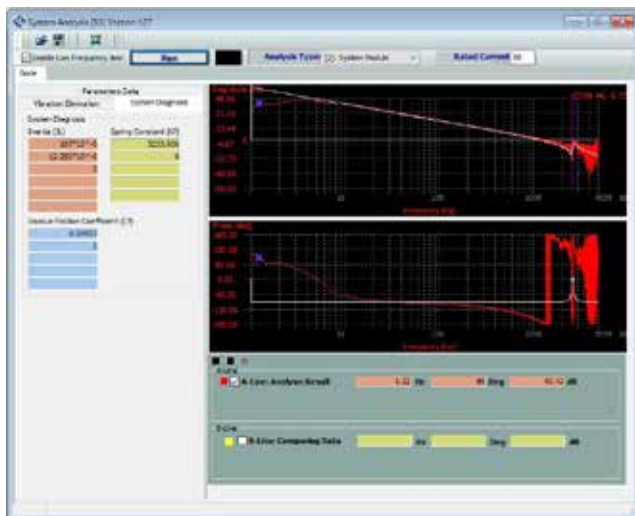
System Analysis Tool

Mechanical Stiffness Diagnosis

- Diagnoses the mechanism elasticity and damping coefficient, and converts the machine structure characteristics into data
- Ensures consistency of mass production machines through data collection

Frequency Domain Response Analysis

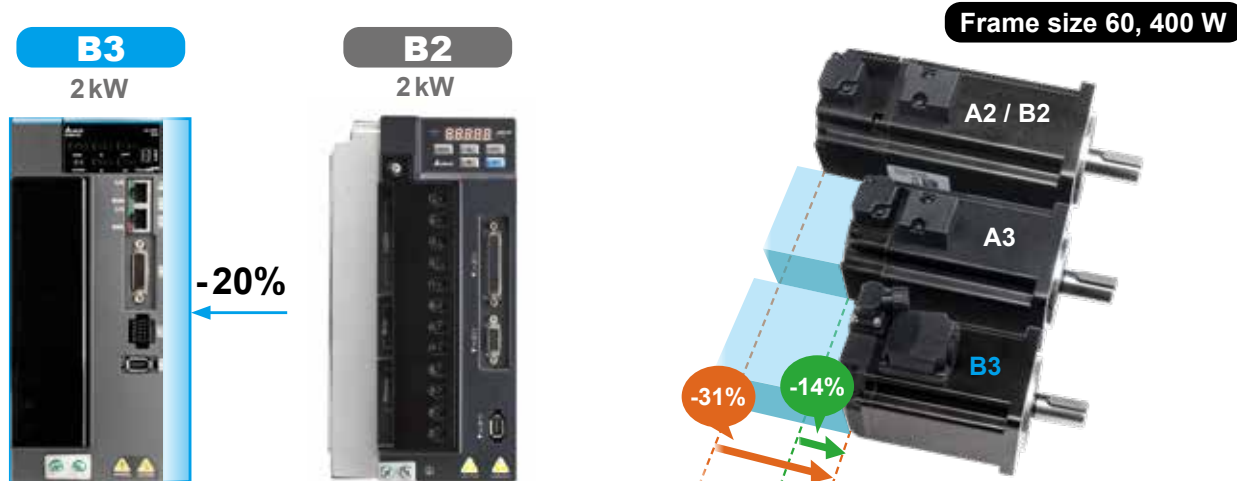
- Ensures system stability
- Compares the phases before and after gain adjustment to ensure the safety margin of the system



Energy-Saving and Compact Size

Compact Size

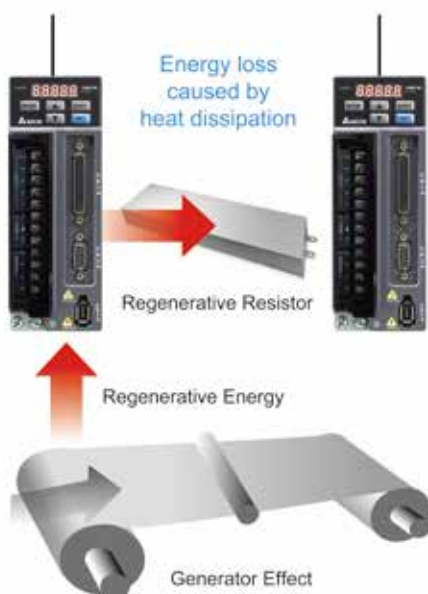
- The size of the servo drive is reduced up to 20%, so it requires less space in the distribution board which meets the need for more compact equipment
- The size of the servo motor is reduced up to 31% which takes up less space and lowers the cost



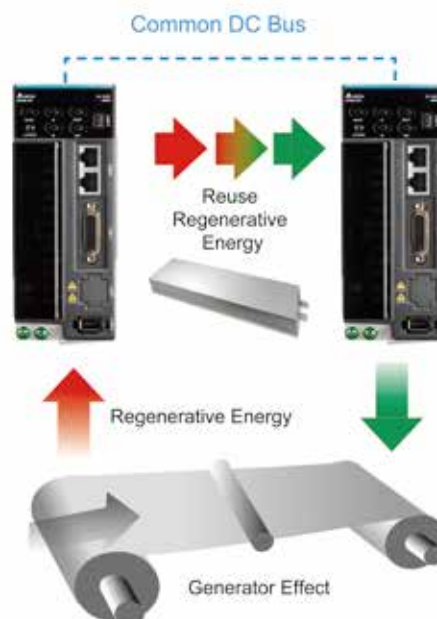
Common DC Bus

- The servo drives can share the DC Bus to reuse regenerative energy for reducing energy consumption
- When multiple servo drives share the common DC Bus, fewer regenerative resistors are required which reduces the cost

Servo Drives w/o DC Bus



B3 DC Bus Structure

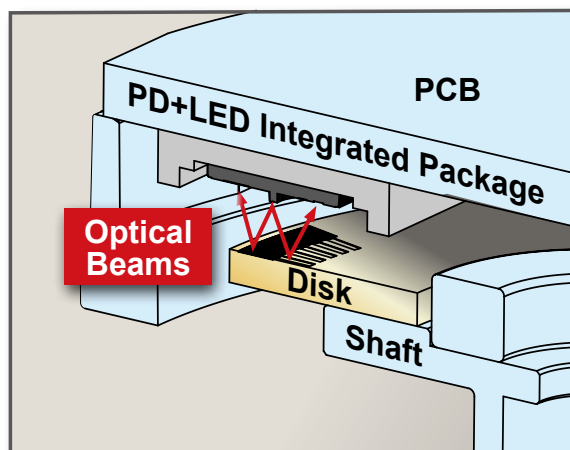


Multiple Selections

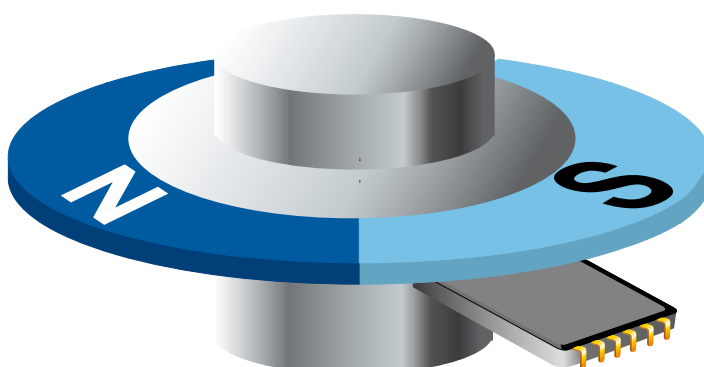
High Resolution Encoder

- High resolution for more precise positioning
- The incremental encoder can retain the single-turn absolute position without the need to execute homing after cycling the power
- After the absolute encoder is powered off, the number of turns and position are retained
- 24-bit optical encoder: The encoder is lighter and thinner with the reflective sensor technology; the exclusive optical sensor compensation function improves product reliability
- 17-bit magnetic encoder: The magnetic induction technology improves the capability to prevent vibration and increases the oil resistance level

Optical Encoder



Magnetic Encoder



High Compatibility

- Compatible with the A2 / B2 / A3 series motors for easier replacement
- Motors of high, medium, and low inertia are available for different applications

High inertia motor: Suitable for applications that require speed stability or resistance to external forces

Medium inertia motor: Suitable for applications with general mechanical equipment

Low inertia motor: Suitable for high-speed positioning and high response applications



ECM-B3 Motor



ECM-A3 Motor

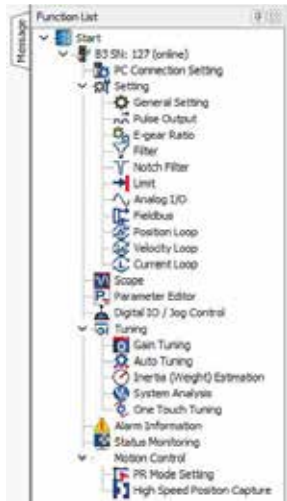


ECMA/ECMC Motor

User-Friendly Software Interface

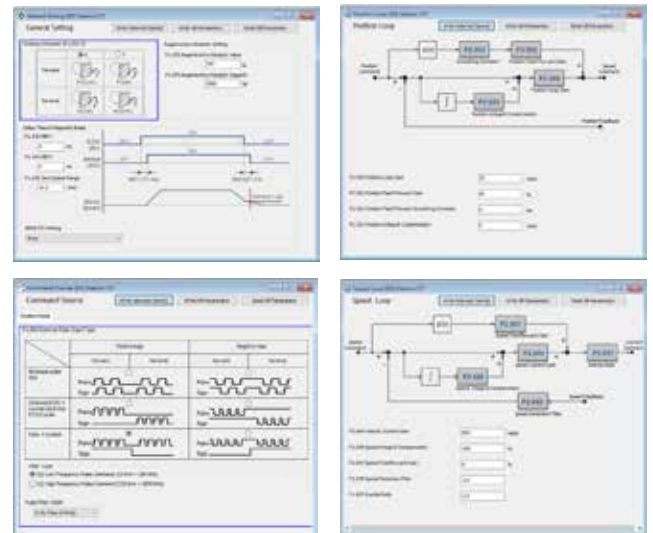
Function List Tree View

- Well-organized function list for quick access
- Expandable and collapsible nodes for easier and more efficient operation



Graphical Parameter Setting

- Intuitive graphic illustrations for gain adjustment and parameter settings



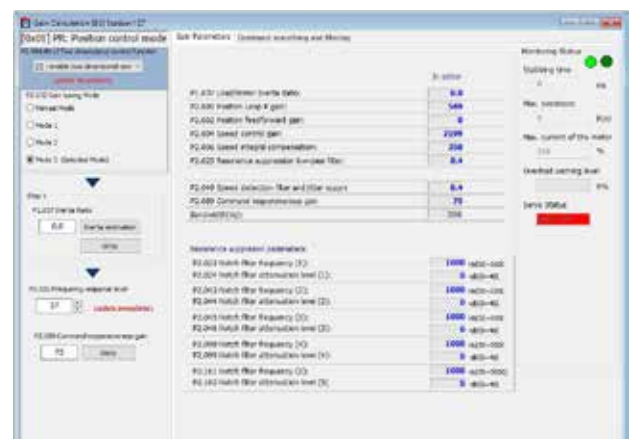
Auto Tuning Function

- Step-by-step and conversational UI for servo gain adjustment



Advanced Gain Adjustment Function

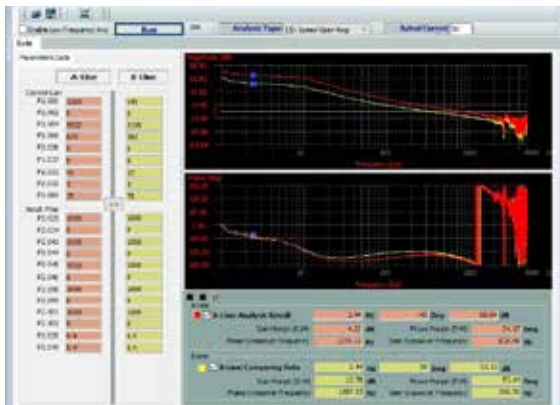
- Provides advanced gain adjustment modes for fine tuning according to different applications and operating characteristics
- Step-by-step software interface to guide users



System Analysis Interface

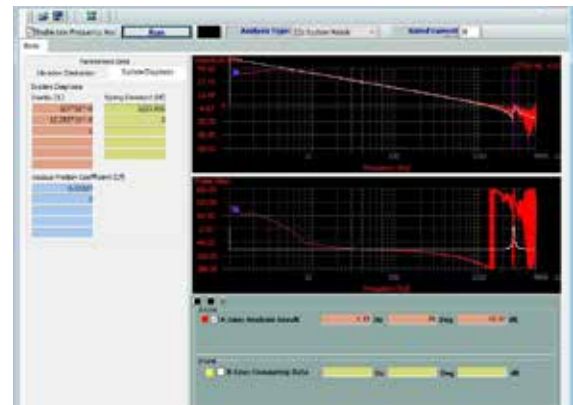
• Speed Open-Loop Mode

Determines if the current system is the most optimized and thus improves the design



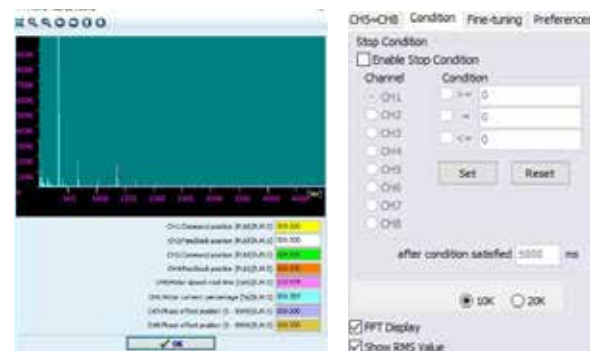
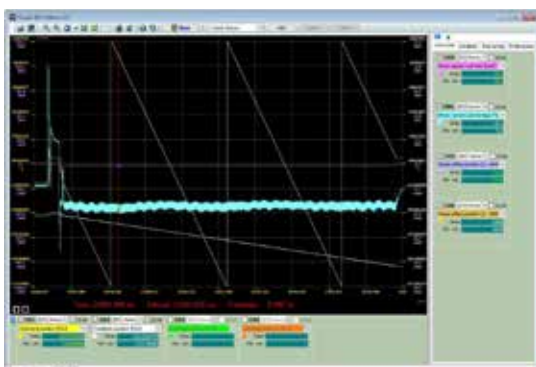
• System Module Mode

Measures the mechanical stiffness of the mechanism in this mode



Oscilloscope Function

- Maximum of 8 channels with 16-bit data size and update frequency of 10 kHz
- 4 high-resolution channels with 32-bit data size and update frequency of 10 kHz
- 4 channels of high sampling rate with 16-bit data size and update frequency of 20 kHz
- Drag the cursor to specify the area for instant FFT (Fast Fourier Transform) and RMS calculation
- Set the triggering conditions for collecting data



Graphical PR Path Programming Interface

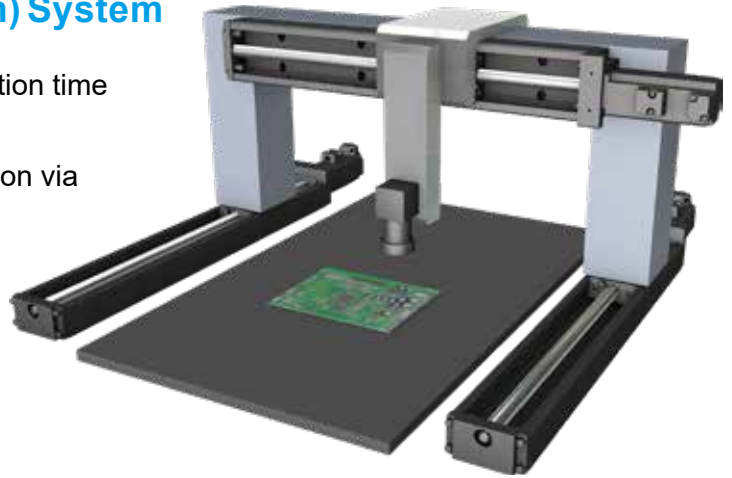
- Graphical PR procedures with detailed settings for better command programming and editing



Applications

AOI (Automatic Optical Inspection) System

- Shorter setting time of B3 shortens the detection time which also increases the production capacity
- Use with the multi-axis synchronization function via EtherCAT communication for quick gantry positioning



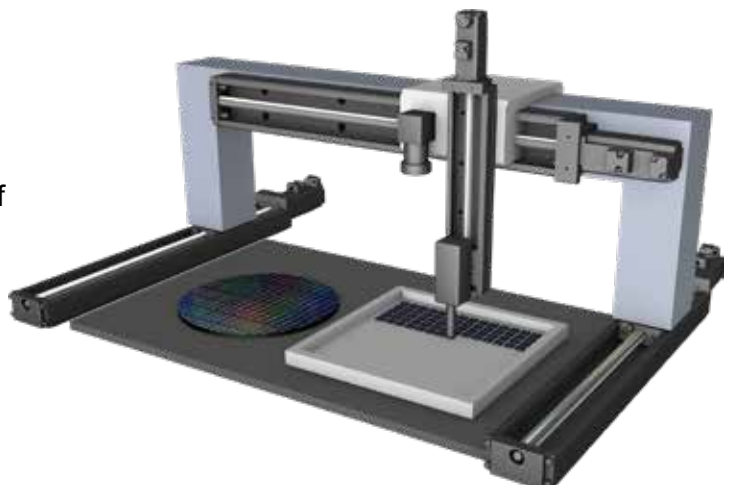
Tool Magazine and Turret

- Shorter response time of B3 significantly reduces the tool changing time
- New communication trigger function for the tool magazine increases the number of tools without occupying DI points
- Common DC Bus function reduces the use of regenerative resistors and improves the power consumption efficiency



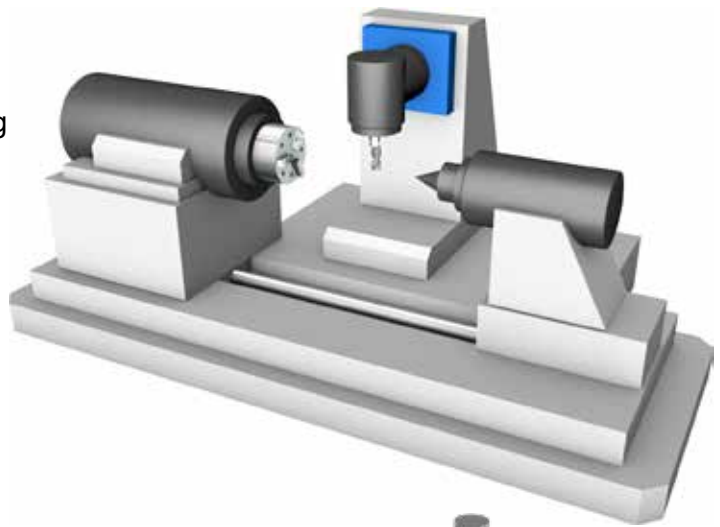
Wafer Pick and Place Machine

- Analog feedback of the PID control with external sensors provides precision control of downward pressure
- Two-stage downward motion planning with high speed and soft landing improves productivity and yield



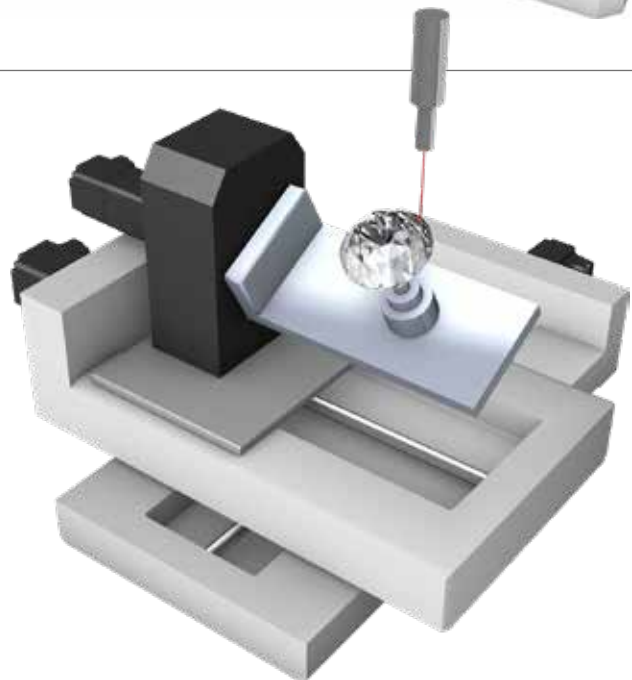
Machine Tool

- Low cogging torque for more stable machining
- Advanced friction compensation function for better performance when changing directions
- Two-degrees-of-freedom control architecture for optimized trajectory tracking



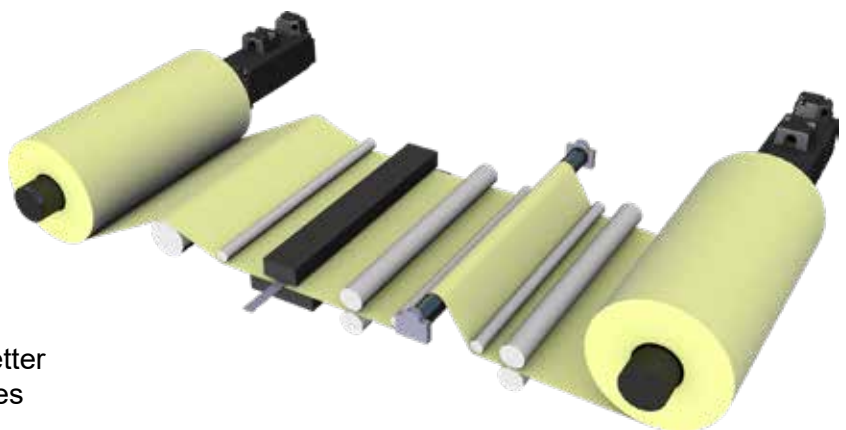
Diamond Cutting Machine

- High inertia motor facilitates the diamond polishing process with high precision and stability
- Low cogging torque for higher machining stability
- Two-degrees-of-freedom control architecture for optimized trajectory tracking

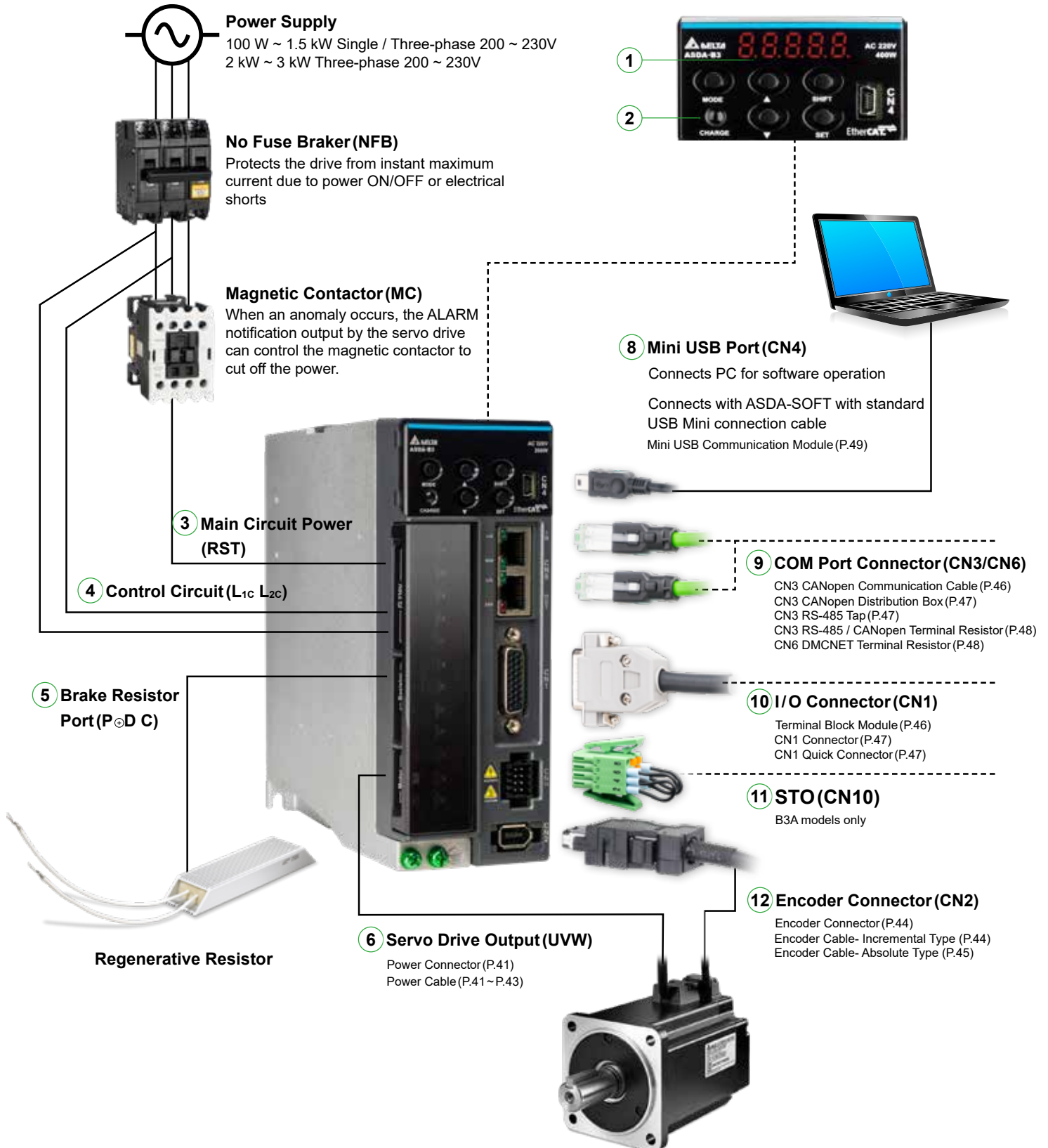


Winding Machine

- Communication type servo drives support the analog input function, facilitating multi-axis communication for tension control.
- High-speed fieldbus with the communication cycle of 125 μ s for better synchronization between multiple axes
- Stable tension control with acceleration and deceleration S-curve



Servo Drive & Accessories



Servo Drive Interface

No.	Name	Description
①	-	7-segment display
②	CHARGE	Power indicator
③	RST	Main circuit terminal; connects to the power supply (200 - 230 V _{AC} , 50/60 Hz)
④	L1C, L2C	Control circuit terminal; connects to single-phase power supply (200 - 230 V _{AC} , 50/60 Hz)
⑤	Regenerative Resistor	Connects to an external regenerative resistor, external regenerative braking unit, or the built-in regenerative resistor
⑥	UVW	Servo drive current output; connects to the motor power connector U, V, W. Do not connect to the main circuit power. Incorrect wiring will cause damage to the servo drive.
⑦	Ground Terminal	Connects to the ground wire for the power and servo motor
⑧	CN4	USB connector (Mini USB); connects to PC
⑨	CN3	Modbus communication port (B3-L)
	CN3	CANopen high-speed communication port (B3-M)
	CN6	DMCNET high-speed communication port (B3-F)
	CN6	EtherCAT high-speed communication port (B3-E)
⑩	CN1	I/O signal interface; connects to the PLC or controls I/O
⑪	CN10	STO connector; only available on B3A models
⑫	CN2	Encoder connector; connects to the encoder of the servo motors

Accessories

Power Cables

- 3 m, 5 m, 10 m, and 20 m standard cables are available
- Standard power connectors and IP67 waterproof connectors are available
- With options of brake and without brake

Encoder Cables

- 3 m, 5 m, 10 m, and 20 m standard cables are available
- Standard encoder connectors and IP67 waterproof connectors are available

USB Cables

- Connects the PC and the servo drive for ASDA-Soft operation
- USB1.1 is equipped as standard interface

Regenerative Resistor

- Refer to Section 2.7 in the ASDA-B3 user manual for selection

Servo System Combination Table

Motor							Drive	Power Cable					
Type	Power Supply	Output (W)	Model Name	Rotational Inertia (x10 ⁻⁴ kg.m ²) Standard/ With Brake	Rated / Max. Speed (rpm)	Rated / Max. Torque (N-m)		Model Name	Standard	Torsion-resistant			
Low Inertia	ECM-A3L	Single- / Three-phase	50	ECM-A3L-C ② 040F ③④⑤	0.0229/0.0255	3000/6000	0.159/0.557	ASD-B3 ① -0121-②	ACS3-CAPW31XX W ACS3-CAPW3AXX	ACS3-CAPF31XX W ACS3-CAPF3AXX	ACS3-CAPF31XX W ACS3-CAPF3AXX		
			100	ECM-A3L-C ② 0401 ③④⑤	0.04/0.0426		0.32/1.12						
			200	ECM-A3L-C ② 0602 ③④⑤	0.09/0.12		0.64/2.24	ASD-B3 ① -0221-②					
			400	ECM-A3L-C ② 0604 ③④⑤	0.15/0.18		1.27/4.45	ASD-B3 ① -0421-②					
			400	ECM-A3L-C ② 0804 ③④⑤	0.352/0.408		1.27/4.44						
	ECM-B3L		750	ECM-A3L-C ② 0807 ③④⑤	0.559/0.614		2.39/8.36	ASD-B3 ① -0721-② ASD-B3 ① -1021-②					
			100	ECM-B3L-C ② 0401 ③④⑤	0.0299/0.0315		0.32/1.12	ASD-B3 ① -0121-②					
			ECM-B3M	200	ECM-B3M-C ② 0602 ③④⑤		0.141/0.151	0.64/2.24				ASD-B3 ① -0221-②	
				400	ECM-B3M-C ② 0604 ③④⑤		0.254/0.264	1.27/4.45				ASD-B3 ① -0421-②	
				400	ECM-B3M-C ② 0804 ③④⑤		0.648/0.695	1.27/4.45					
750	ECM-B3M-C ② 0807 ③④⑤			1.07/1.13	2.4/8.4	ASD-B3 ① -0721-②							
Medium Inertia	ECM-B3M			1000	ECM-B3M-E ② 1310 ③④⑤	7.79/7.94	2000/3000	4.77/14.3	ASD-B3 ① -1021-②	ACS3-CAPW32XX	ACS3-CAPF32XX	ACS3-CAPF32XX	
			1500	ECM-B3M-E ② 1315 ③④⑤	11.22/11.37	7.16/21.48		ASD-B3 ① -1521-②					
		Three-phase	2000	ECM-B3M-E ② 1320 ③④⑤	14.65/14.8	9.55/28.65		ASD-B3 ① -2023-②	ACS3-CAPW34XX				ACS3-CAPF34XX
			2000	ECM-B3M-E ② 1820 ③④⑤	29.11/30.38	9.55/28.65							
			3000	ECM-B3M-F ② 1830 ③④⑤	53.63/54.9	1500/3000		19.1/57.29					
	High Inertia	ECM-A3H	Single- / Three-phase	50	ECM-A3H-C ② 040F ③④⑤	0.0455/0.0517	3000/6000	0.159/0.557	ASD-B3 ① -0121-②	ACS3-CAPW31XX W ACS3-CAPW3AXX	ACS3-CAPF31XX W ACS3-CAPF3AXX	ACS3-CAPF31XX W ACS3-CAPF3AXX	
				100	ECM-A3H-C ② 0401 ③④⑤	0.0754/0.0816		0.32/1.12					
200				ECM-A3H-C ② 0602 ③④⑤	0.25/0.28	0.64/2.24		ASD-B3 ① -0221-②					
400				ECM-A3H-C ② 0604 ③④⑤	0.45/0.48	1.27/4.45		ASD-B3 ① -0421-②					
400				ECM-A3H-C ② 0804 ③④⑤	0.92/1.07	1.27/4.44							
750				ECM-A3H-C ② 0807 ③④⑤	1.51/1.66	2.39/8.36		ASD-B3 ① -0721-②					

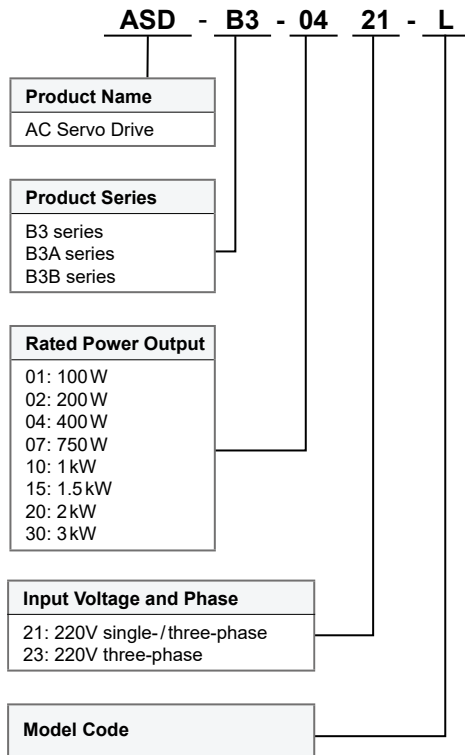
Note:

- Model name with W = IP67 water-proof connector; D = drive connector; M = motor connector; S = straight connector; R = angular connector; B = single brake connector, power connector required
- Cable model name: The "XX" stands for cable length. 03 = 3 m, 05 = 5 m, 10 = 10 m, 20 = 20 m.
- Servo motor model name: ② = encoder type, ③ = type of shaft and oil seal, ④ = shaft diameter and connector type, ⑤ = special code.
- Servo drive model name: ① = product series, ② = model code.

Connector & Cable						Connector Only (No Cable)		
Power Cable with Brake		Encoder Cable (Incremental Type)		Encoder Cable (Absolute Type)		Power Connector	Power Connector (with brake)/ Brake Connector	Encoder Connector
Standard	Torsion-resistant	Standard	Torsion-resistant	Standard	Torsion-resistant			
ACS3-CAPW41XX ACS3-CAPW4AXX	ACS3-CAPF41XX W ACS3-CAPF4AXX	ACS3-CAEN10XX W ACS3-CAEN2AXX	ACS3-CAEF10XX W ACS3-CAEF2AXX	ACS3-CAEA10XX W ACS3-CAEA2AXX	ACS3-CAEB10XX W ACS3-CAEB2AXX	ASDBCAPW0000 W ACS3-CNPW1A00	ASDBCAPW0100 W ACS3-CNPW2A00	D ACS3-CNENC200 + M ACS3-CNEN1000 M W ACS3-CNEN2A00
ACS3-CAPW42XX	ACS3-CAPF42XX	ACS3-CAEN27XX	ACS3-CAEF27XX	ACS3-CAEA27XX	ACS3-CAEB27XX	S ACS3-CNPW5200 R ACS3-CNPW5C00 R ACS3-CNPW5C00 S ACS3-CNPW5300 R ACS3-CNPW5D00 R ACS3-CNPW5D00	S ACS3-CNPW5200 R ACS3-CNPW5C00 + S ACS3-CNPW6300 R ACS3-CNPW6D00 S ACS3-CNPW5300 R ACS3-CNPW5D00 + S ACS3-CNPW6300 R ACS3-CNPW6D00	D ACS3-CNENC200 + M S ACS3-CNEN2700 M R ACS3-CNEN2C00
ACS3-CAPW44XX	ACS3-CAPF44XX					S ACS3-CNPW5300 R ACS3-CNPW5D00 R ACS3-CNPW5D00 S ACS3-CNPW6300 R ACS3-CNPW6D00		
ACS3-CAPW41XX ACS3-CAPW4AXX	ACS3-CAPF41XX W ACS3-CAPF4AXX	ACS3-CAEN10XX W ACS3-CAEN2AXX	ACS3-CAEF10XX W ACS3-CAEF2AXX	ACS3-CAEA10XX W ACS3-CAEA2AXX	ACS3-CAEB10XX W ACS3-CAEB2AXX	ASDBCAPW0000 W ACS3-CNPW1A00	ASDBCAPW0100 W ACS3-CNPW2A00	D ACS3-CNENC200 + M ACS3-CNEN1000 M W ACS3-CNEN2A00

Servo Drive Model Information

ASD-B3 Series Servo Drive



ASD-B3

Code	PT Mode Pulse Input	PR Mode	RS-485	Analog Voltage Control	CANopen	DMCNET	EtherCAT	STO
L	√	√	√	√	-	-	-	-
M	-	√	-	√	√	-	-	-
F	-	√	-	√	-	√	-	-
E	-	√	-	√	-	-	√	-

ASD-B3A^{*1}

Code	PT Mode Pulse Input	PR Mode	RS-485	Analog Voltage Control	CANopen	DMCNET	EtherCAT	STO ^{*2}
L	√	√	√	√	-	-	-	√
M	√	√	√	√	√	-	-	√
F	√	√	-	√	-	√	-	√
E	√	√	-	√	-	-	√	√

Note: The model information is for reference only. Not all kinds of permutations are available. Please contact the distributor near your region or Delta for the details.



Servo Drive Specifications

ASD-B3			100W	200W	400W	750W	1kW	1.5kW	2kW	3kW	
			01	02	04	07	10	15	20	30	
Power Supply	Phase / Voltage		Single-phase / Three-phase 220V _{AC}							Three-phase 220V _{AC}	
	Permissible Voltage		Single-phase / Three-phase 200 - 230V _{AC} , -15% to 10%							Three-phase 200 - 230V _{AC} , -15% to 10%	
	Input Current (3PH) (Unit: Arms)		0.88	1.29	2.04	3.52	5.72	6.33	7.6	10.3	
	Input Current (1PH) (Unit: Arms)		1.47	2.35	3.74	6.47	10.4	11.7			
	Continuous Output Current (Unit: Arms)		0.9	1.55	2.65	5.1	7.3	8.3	13.4	19.4	
Max. Instantaneous Output Current (Unit: Arms)			3.88	7.07	10.6	16.4	21.21	27	38.3	58.9	
Cooling Method			Natural cooling					Fan cooling			
Drive Resolution			24-bit (16,777,216 pls/rev)								
Main Circuit Control			SVPWM control								
Tuning Mode			Auto / Manual								
Regenerative Resistor			N/A		Built-in						
Position Control Mode	Pulse Type (only for pulse control mode)		Pulse + Direction; A phase + B phase; CCW pulse +CW pulse								
	Max. Output Pulse Frequency (only for pulse control mode)		Pulse + direction: 4 Mpps; CCW pulse + CW pulse: 4 Mpps; A phase + B phase: single-phase 2 Mpps; Open collector: 200 Kpps								
	Command Source		External pulse (only for pulse control mode) / Internal register (PR mode)								
	Smoothing Method		Low-pass, S-curve, and moving filters								
	E-Gear Ratio		E-Gear ratio: N / M times, limited to (1 / 4 < N / M < 262144) N: 1 - 536870911/M: 1 - 2147483647								
Speed Control Mode	Torque Limit		Parameter settings								
	Feed Forward Compensation		Parameter settings								
	Analog Command Input	Voltage Range	0 to ±10 V _{DC}								
		Resolution	12-bit								
		Input Impedance	1 MΩ								
Time Constant		25 μs									
Speed Control Range ^{*1}			1 : 6000								
Command Source			External analog command / Internal register								
Smoothing Method			Low-pass and S-curve filters								
Torque Limit			Parameter settings or analog input								
Bandwidth			Maximum 3.1 kHz								
Speed Calibration Ratio ^{*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								
Torque Control Mode	Analog Command Input	Voltage Range	0 to ±10 V _{DC}								
		Input Impedance	1 MΩ								
		Time Constant	25 μs								
		Command Source	External analog command / Internal register								
	Smoothing Method		Low-pass filter								
Speed Limit			Parameter settings or analog input								
Analog Monitor Output			Monitoring signal can be set with parameters (voltage output range: ±8V); resolution: 10-bit								
Digital Input / Output	Input	Output	Servo on, Fault reset, Gain switch, Pulse clear, Zero speed clamping, Command input reverse control, Internal position command trigger, Torque limit, Speed limit, Internal position command selection, Motor stop, Speed command selection, Speed / Position mode switching, Speed / Torque command switching, Torque / Position mode switching, PT / PR command switching, Emergency stop, Forward / reverse limit, Original point, Forward / reverse operation torque limit, Homing activated, Forward / reverse JOG input, Event trigger, E-Gear N selection, Pulse input prohibition *The DI mentioned above are only used in pulse control mode. When controlling through communication, it is suggested that you use communication for DI input. DI only supports emergency stop, forward / reverse limit, and homing.								
			A, B, Z line driver output								
			Servo ready, Servo on, Zero speed detection, Target speed reached, Target position reached, Torque limiting, Servo alarm, Magnetic brake control, Homing complete, Early warning for overload, Servo warning, Position command overflows, Software limit (reverse direction), Software limit (forward direction), Internal position command complete, Servo procedure complete, Capture procedure complete								
Protection Function			Overcurrent, Overvoltage, Undervoltage, Overheat, Regeneration error, Overload, Excessive speed deviation, Excessive position deviation, Encoder error, Adjustment error, Emergency stop, Forward / reverse limit error, Serial communication error, RST leak phase, Serial communication timeout, Short-circuit protection for terminals U, V, W								
Communication Interface			USB/RS-485/CANopen/DMCNET/EtherCAT								
Environment	Installation Site		Indoors (avoid direct sunlight), no corrosive vapor (avoid fumes, flammable gases, and dust)								
	Altitude		Altitude 2000 m or lower above sea level								
	Atmospheric Pressure		86 kPa - 106 kPa								
	Operating Temperature		0°C to 55°C (If operating temperature is above 45°C, forced cooling is required)								
	Storage Temperature		-20°C to 65°C								
	Humidity		0 to 90% RH (non-condensing)								
	Vibration		9.80665 m/s ² (1 G) less than 20 Hz, 5.88 m/s ² (0.6 G) 20 to 50 Hz								
	IP Rating		IP20								
Power System			TN system ^{*3,4}								
Certifications			IEC/EN/UL 61800-5-1  								

Notes:

*1. Within the rated load, the speed ratio is: the minimum speed (smooth operation) / rated speed.

*2. Within the rated speed, the speed calibration 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 directly to the ground. The exposed metal components connect to the ground through the protective ground conductor.

*4. Use a single-phase three-wire power system for the single-phase power model.

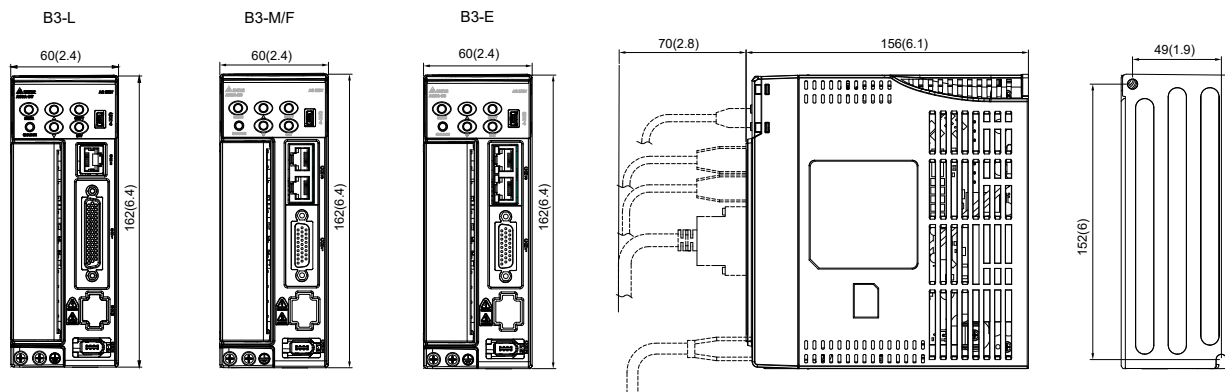
Servo Drive Specifications

Dimensions

100 W/200 W/400 W

Weight
0.9 kg

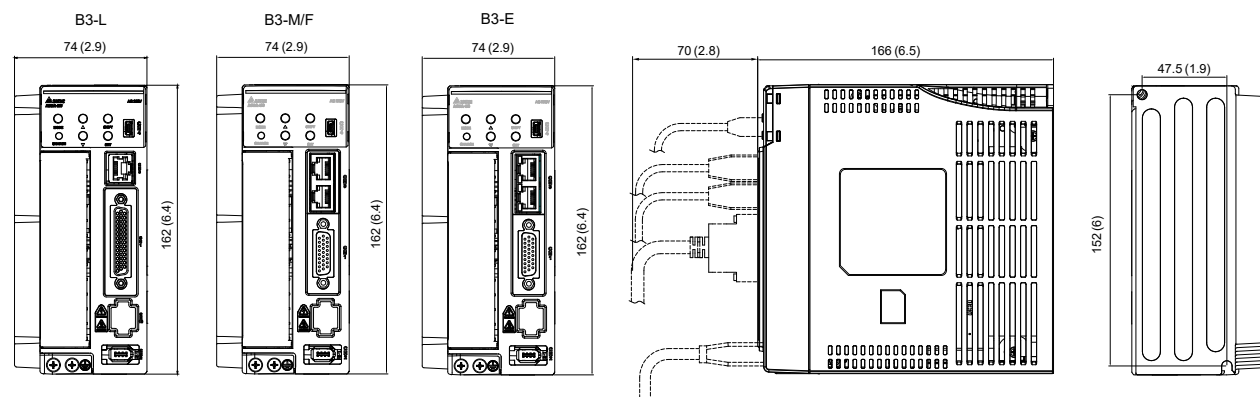
Unit: mm (inch)



750 W

Weight
1.2 kg

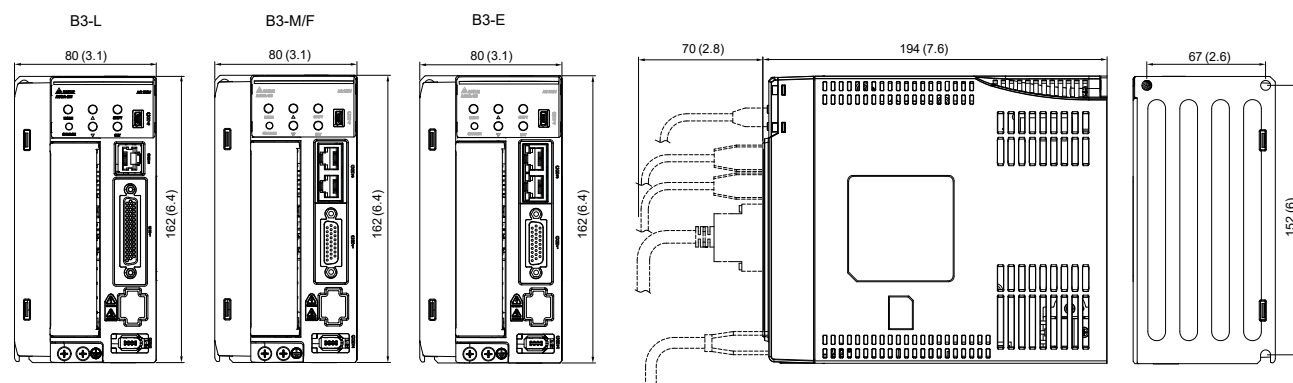
Unit: mm (inch)



1 kW/1.5 kW

Weight
1.8 kg

Unit: mm (inch)

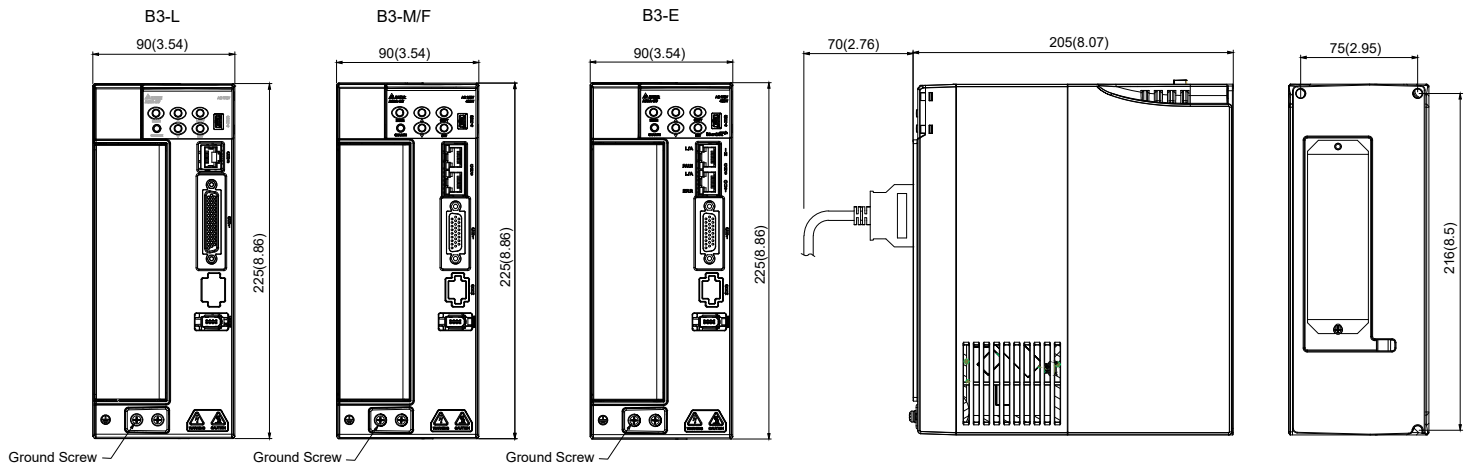


2 kW/3 kW

Weight

2.8 kg

Unit: mm (inch)



Regenerative Resistor Specifications

Servo Drive (kW)	Specifications of the Built-In Regenerative Resistor		Capacity of the Built-In Regenerative Resistor (Watt)	Minimum Allowable Resistance Value (Ohm) (reference for external resistors)
	Resistance (Ohm)	Capacity (Watt)		
0.1	-	-	-	60
0.2	-	-	-	60
0.4	100	40	20	60
0.75	100	40	20	60
1.0	100	40	20	30
1.5	100	40	20	30
2.0	20	80	40	15
3.0	20	80	40	15

Servo Motor Model Information

ECM-B3 Series Servo Motor

ECM	-	B3	M	-	C	A	06	04	R	S	1															
Product Name ECM: Electronic Commutation Motor Series B3 series Inertia M: Medium inertia L: Low inertia Rated Voltage and Speed C: 220V/3000rpm E: 220V/2000rpm F: 220V/1500rpm Encoder Type A: 24-bit absolute magnetic optical encoder Resolution of single turn: 24-bit Resolution of multiple turns^{*1}: 16-bit 2: 24-bit incremental magnetic optical encoder^{*2} P: 17-bit absolute magnetic encoder Resolution of single turn: 17-bit Resolution of multiple turns^{*1}: 16-bit M:17-bit incremental magnetic encoder^{*2} *1. Number of turns. *2. Can be used as a single-turn absolute encoder. Motor Frame Size 04: 40 mm 06: 60 mm 08: 80 mm 13: 130 mm 18: 180 mm Rated Power Output 01: 100 W 02: 200 W 04: 400 W 07: 750 W 10: 1 kW 15: 1.5 kW 20: 2 kW 30: 3 kW <table><tr><th>Type of Shaft and Oil Seal</th><th>w/o Brake w/o Oil Seal</th><th>with Brake w/o Oil Seal</th><th>w/o Brake with Oil Seal</th><th>with Brake with Oil Seal</th></tr><tr><td>Round Shaft (with fixed screw holes)</td><td>-</td><td>-</td><td>C*</td><td>D*</td></tr><tr><td>Keyway (with fixed screw holes)</td><td>P*</td><td>Q*</td><td>R</td><td>S</td></tr></table> Note: Models with an * are coming soon. Shaft Diameter S: Standard connector and standard shaft diameter 7: Standard connector and special shaft diameter (14 mm)* J: IP67 waterproof connector and standard shaft diameter K: IP67 waterproof connector and special shaft diameter (14 mm)* *Shafts of special diameter are used for 400 W motors with the frame size of 80 mm. Special Code 1: Standard products												Type of Shaft and Oil Seal	w/o Brake w/o Oil Seal	with Brake w/o Oil Seal	w/o Brake with Oil Seal	with Brake with Oil Seal	Round Shaft (with fixed screw holes)	-	-	C*	D*	Keyway (with fixed screw holes)	P*	Q*	R	S
Type of Shaft and Oil Seal	w/o Brake w/o Oil Seal	with Brake w/o Oil Seal	w/o Brake with Oil Seal	with Brake with Oil Seal																						
Round Shaft (with fixed screw holes)	-	-	C*	D*																						
Keyway (with fixed screw holes)	P*	Q*	R	S																						

ECM-A3 Series Servo Motor

ECM	-	A3	H	-	C	Y	06	04	R	S	1															
Product Name ECM: Electronic Commutation Motor																										
Series A3 series																										
Inertia H: High inertia L: Low inertia																										
Rated Voltage and Speed C: 220V / 3000 rpm																										
Encoder Type Y: 24-bit absolute optical encoder Resolution of single turn: 24-bit Resolution of multiple turns^{*1}: 16-bit 1: 24-bit incremental optical encoder^{*2} A: 24-bit absolute magnetic optical encoder Resolution of single turn: 24-bit Resolution of multiple turns^{*1}: 16-bit 2: 24-bit incremental magnetic optical encoder^{*2}																										
*1. Number of turns. *2. Can be used as a single-turn absolute encoder.																										
Motor Frame Size 04: 40 mm 06: 60 mm 08: 80 mm																										
Rated Power Output 0F: 50 W 01: 100 W 02: 200 W 04: 400 W 07: 750 W																										
<table><tr><td>Type of Shaft and Oil Seal</td><td>w/o Brake w/o Oil Seal</td><td>with Brake w/o Oil Seal</td><td>w/o Brake with Oil Seal</td><td>with Brake with Oil Seal</td></tr><tr><td>Round Shaft (with fixed screw holes)</td><td>-</td><td>-</td><td>C</td><td>D</td></tr><tr><td>Keyway (with fixed screw holes)</td><td>P*</td><td>Q*</td><td>R</td><td>S</td></tr></table>												Type of Shaft and Oil Seal	w/o Brake w/o Oil Seal	with Brake w/o Oil Seal	w/o Brake with Oil Seal	with Brake with Oil Seal	Round Shaft (with fixed screw holes)	-	-	C	D	Keyway (with fixed screw holes)	P*	Q*	R	S
Type of Shaft and Oil Seal	w/o Brake w/o Oil Seal	with Brake w/o Oil Seal	w/o Brake with Oil Seal	with Brake with Oil Seal																						
Round Shaft (with fixed screw holes)	-	-	C	D																						
Keyway (with fixed screw holes)	P*	Q*	R	S																						
*Note: Models with an * are coming soon.																										
Shaft Diameter S: Standard connector and standard shaft diameter 7: Standard connector and special shaft diameter (14 mm)* J: IP67 waterproof connector and standard shaft diameter K: IP67 waterproof connector and special shaft diameter (14 mm)*																										
*Shafts of special diameter are used for 400 W motors with the frame size of 80 mm.																										
Special Code 1: Standard products Z: Refer to the note for dimensions on page 33																										

Note: The model information is for reference only. Not all kinds of permutations are available.
Please contact the distributor near your region or Delta for the details.

ECM-B3 Series Servo Motor Specifications

Electrical Specifications

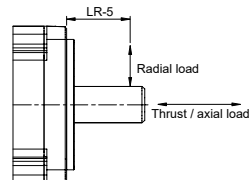
Low Inertia Motor ECM-B3L Series / Medium Inertia Motor ECM-B3M Series

	ECM-B3L-C 2 0401 ^{*1}	ECM-B3M-C 2 0602 ^{*1}	ECM-B3M-C 2 0604 ^{*1}	ECM-B3M-C 2 0804 ^{*1}
Rated Power (kW)	0.1	0.2	0.4	0.4
Rated Torque (N·m) ^{*2}	0.32	0.64	1.27	1.27
Maximum Torque (N·m)	1.12	2.24	4.45	4.45
Rated Speed (rpm)	3000			
Maximum Speed (rpm)	6000			
Rated Current (Arms)	0.857	1.42	2.40	2.53
Max. Instantaneous Current (Arms)	3.44	6.62	9.47	9.42
Rated Power Rate (kW/s) ^{*3}	34.25 (32.51)	29.05 (27.13)	63.50 (61.09)	24.89 (23.21)
Rotor Inertia ($\times 10^{-4}$ kg·m ²) ^{*3}	0.0299 (0.0315)	0.141 (0.151)	0.254 (0.264)	0.648 (0.695)
Mechanical Time Constant (ms) ^{*3}	0.50 (0.53)	0.91 (0.97)	0.52 (0.54)	0.8 (0.86)
Torque Constant -KT (N·m/A)	0.374	0.45	0.53	0.5
Voltage Constant -KE (mV/(rpm))	13.8	16.96	19.76	18.97
Armature Resistance (Ohm)	8.22	4.71	2.04	1.125
Armature Inductance (mH)	19.1	12.18	6.50	5.14
Electrical Time Constant (ms)	2.32	2.59	3.19	4.57
Brake Holding Torque [N·m (min)] ^{*4}	0.3	1.3	1.3	2.5
Brake Power Consumption (at 20°C)[W]	6.1	7.6	7.6	8
Brake Release Time [ms (Max.)]	20	20	20	20
Brake Pull-In Time [ms (Max.)]	35	50	50	60
Max. Radial Loading (N) ^{*6}	78	245	245	392
Max. Axial Loading (N) ^{*6}	54	74	74	147
Weight (kg) ^{*3}	0.5 (0.7)	0.9 (1.3)	1.2 (1.6)	1.7 (2.51)
Derating (%) (with oil seal)	10	10	5	5
Torque Feature (T-N Curve)				
Insulation Class	Class A (UL), Class B (CE)			
Insulation Resistance	> 100 MΩ, DC 500V			
Insulation Strength	1.8 kVac, 1 sec			
Vibration Level (μm)	V15			
Operating Temperature	-20°C ~ 60°C ^{*5}			
Storage Temperature	-20°C ~ 80°C ^{*5}			
Storage & Operation Humidity	20 ~ 90%RH (non-condensing)			
Vibration Capacity	2.5 G			
IP Rating	IP67 (when using waterproof connections and when an oil seal is fitted to the rotating shaft (for an oil seal model))			
Certifications				

Notes:

- In the servo motor model name, [1] represents the motor inertia and [2] represents the encoder type.
- The rated torque is the continuous permissible torque between 0 to 40°C operating temperature which is suitable for the servo motor mounted with the following heat sink dimensions.
F40, F60, F80: 250 mm x 250 mm x 6 mm
Material: aluminum
- () = motor with brake
- The built-in servo motor brake is only for keeping the object in a stopped state.
Do not use it for deceleration or as a dynamic brake
- If the operating temperature is over 40°C, refer to the power derating curves of B3 motors on page 27.

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



ECM-B3 Series Servo Motor Specifications

Electrical Specifications

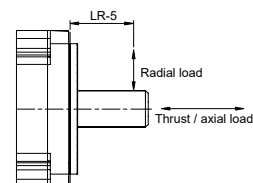
Medium Inertia Motor ECM-B3M Series

	ECM-B3-C 2 0807 ^{*1}	ECM-B3-E 2 1310 ^{*1}	ECM-B3-E 2 1315 ^{*1}	ECM-B3-E 2 1320 ^{*1}
Rated Power (kW)	0.75	1	1.5	2
Rated Torque (N-m) ^{*2}	2.4	4.77	7.16	9.55
Maximum Torque (N-m)	8.4	14.3	21.48	28.65
Rated Speed (rpm)	3000	2000		
Maximum Speed (rpm)	6000	3000		
Rated Current (Arms)	4.27	5.96	8.17	10.59
Max. Instantaneous Current (Arms)	15.8	19.9	26.82	34.20
Rated Power Rate (kW/s) ^{*3}	53.83(50.97)	29.21 (28.66)	45.69 (45.09)	62.25 (61.62)
Rotor Inertia ($\times 10^{-4}$ kg.m ²) ^{*3}	1.07 (1.13)	7.79 (7.94)	11.22 (11.37)	14.65 (14.8)
Mechanical Time Constant (ms) ^{*3}	0.54 (0.57)	1.46 (1.49)	1.10 (1.12)	1.03 (1.04)
Torque Constant -KT (N-m/A)	0.56	0.80	0.88	0.90
Voltage Constant -KE (mV/(rpm))	20.17	29.30	31.69	32.70
Armature Resistance (Ohm)	0.55	0.419	0.260	0.198
Armature Inductance (mH)	2.81	4	2.81	2.18
Electrical Time Constant (ms)	5.11	9.55	10.81	11.01
Brake Holding Torque [Nt-m (min)] ^{*4}	2.5	10	10	10
Brake Power Consumption (at 20°C)[W]	8	21.5	21.5	21.5
Brake Release Time [ms (Max.)]	20	50	50	50
Brake Pull-In Time [ms (Max.)]	60	110	110	110
Max. Radial Loading (N) ^{*6}	392	490	686	980
Max. Axial Loading (N) ^{*6}	147	98	343	392
Weight (kg) ^{*3}	2.34 (3.15)	4.9 (6.3)	6.0 (7.4)	7 (8.5)
Derating (%) (with oil seal)	5	5	5	5
Torque Feature (T-N Curve)				
Insulation Class	Class A (UL), Class B (CE)			
Insulation Resistance	> 100 MΩ, DC 500V			
Insulation Strength	1.8 kVac, 1 sec			
Vibration Level (μm)	V15			
Operating Temperature	-20°C ~ 60°C ^{*5}			
Storage Temperature	-20°C ~ 80°C ^{*5}			
Storage & Operation Humidity	20 ~ 90%RH (non-condensing)			
Vibration Capacity	2.5 G			
IP Rating	IP67 (when using waterproof connections and when an oil seal is fitted to the rotating shaft (for an oil seal model))			
Certifications				

Notes:

- In the servo motor model name, [] represents the motor inertia and [] represents the encoder type.
- The rated torque is the continuous permissible torque between 0 to 40°C operating temperature which is suitable for the servo motor mounted with the following heat sink dimensions.
F80: 250 mm x 250 mm x 6 mm
F130: 400 mm x 400 mm x 20 mm
Material: aluminum
- () = motor with brake
- The built-in servo motor brake is only for keeping the object in a stopped state.
Do not use it for deceleration or as a dynamic brake
- If the operating temperature is over 40°C, refer to the power derating curves of B3 motors on page 27.

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



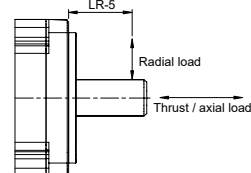
Medium Inertia Motor ECM-B3M Series

ECM-B3 ①	ECM-B3M-E ② 1820* ¹	ECM-B3M-F ② 1830* ¹
Rated Power (kW)	2	3
Rated Torque (N-m) ²	9.55	19.1
Maximum Torque (N-m)	28.65	57.29
Rated Speed (rpm)	2000	1500
Maximum Speed (rpm)	3000	3000
Rated Current (Arms)	11.43	18.21
Max. Instantaneous Current (Arms)	36.21	58.9
Rated Power Rate (kW/s) ³	31.33 (30.02)	68.02 (66.45)
Rotor Inertia ($\times 10^{-4}$ kg.m ²) ³	29.11 (30.38)	53.63 (54.9)
Mechanical Time Constant (ms) ³	1.74 (1.81)	1.21 (1.24)
Torque Constant -KT (N-m/A)	0.88	1.05
Voltage Constant -KE (mV/(rpm))	31.6	37.9
Armature Resistance (Ohm)	0.159	0.086
Armature Inductance (mH)	2.34	1.52
Electrical Time Constant (ms)	14.72	17.67
Brake Holding Torque [Nt-m (min)] ⁴	25	25
Brake Power Consumption (at 20°C)[W]	31	31
Brake Release Time [ms (Max.)]	30	30
Brake Pull-In Time [ms (Max.)]	120	120
Max. Radial Loading (N) ⁶	1470	1470
Max. Axial Loading (N) ⁶	490	490
Weight (kg) ³	10 (13.7)	13.9 (17.6)
Derating (%) (with oil seal)	5	5
Torque Feature (T-N Curve)		
Insulation Class	Class A (UL), Class B (CE)	
Insulation Resistance	> 100 MΩ, DC 500V	
Insulation Strength	1.8 kVac, 1 sec	
Vibration Level (μm)	V15	
Operating Temperature	-20°C ~ 60°C* ⁵	
Storage Temperature	-20°C ~ 80°C* ⁵	
Storage & Operation Humidity	20 ~ 90%RH (non-condensing)	
Vibration Capacity	2.5 G	
IP Rating	IP67 (when using waterproof connections and when an oil seal is fitted to the rotating shaft (for an oil seal model))	
Certifications		

Notes:

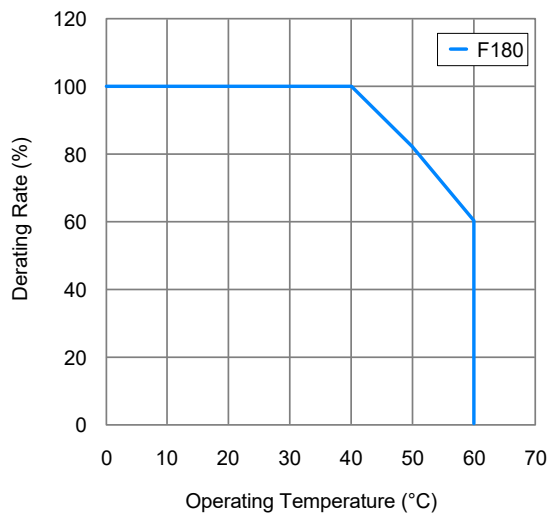
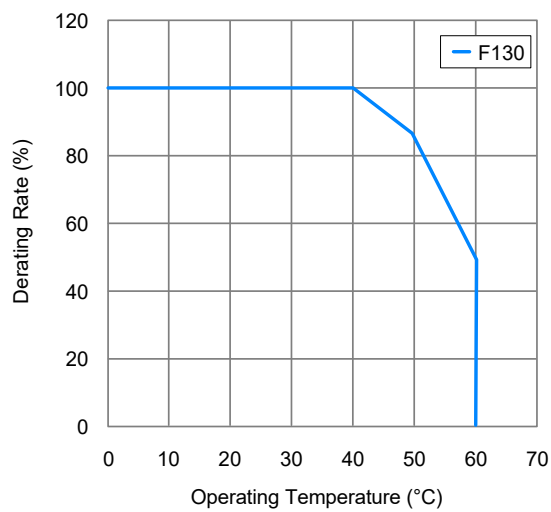
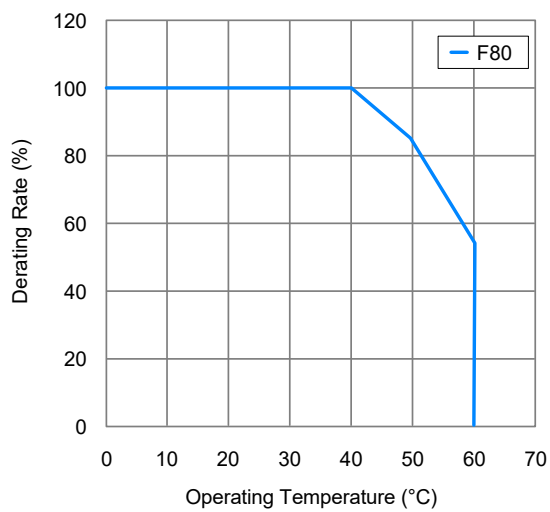
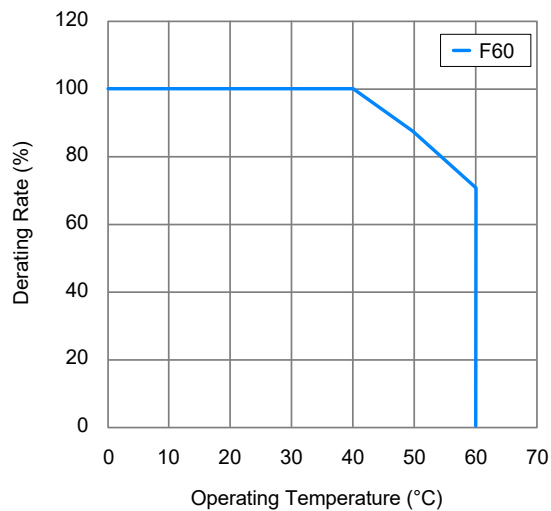
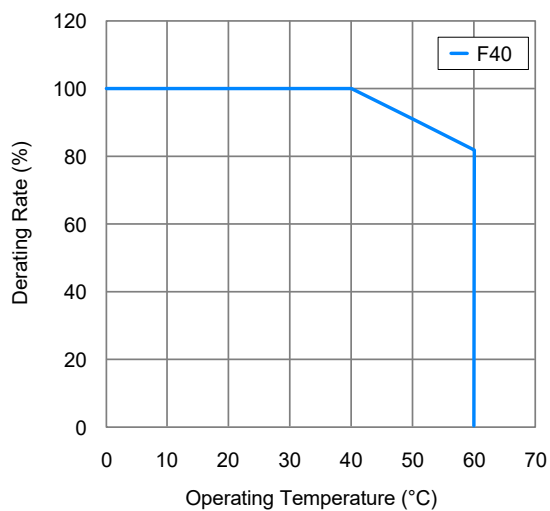
- In the servo motor model name, ① represents the motor inertia and ② represents the encoder type.
- The rated torque is the continuous permissible torque between 0 to 40°C operating temperature which is suitable for the servo motor mounted with the following heat sink dimensions.
F180 : 550 mm x 550 mm x 30 mm
Material: aluminum
- () = motor with brake
- The built-in servo motor brake is only for keeping the object in a stopped state.
Do not use it for deceleration or as a dynamic brake
- If the operating temperature is over 40°C, refer to the power derating curves of B3 motors on page 27.

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

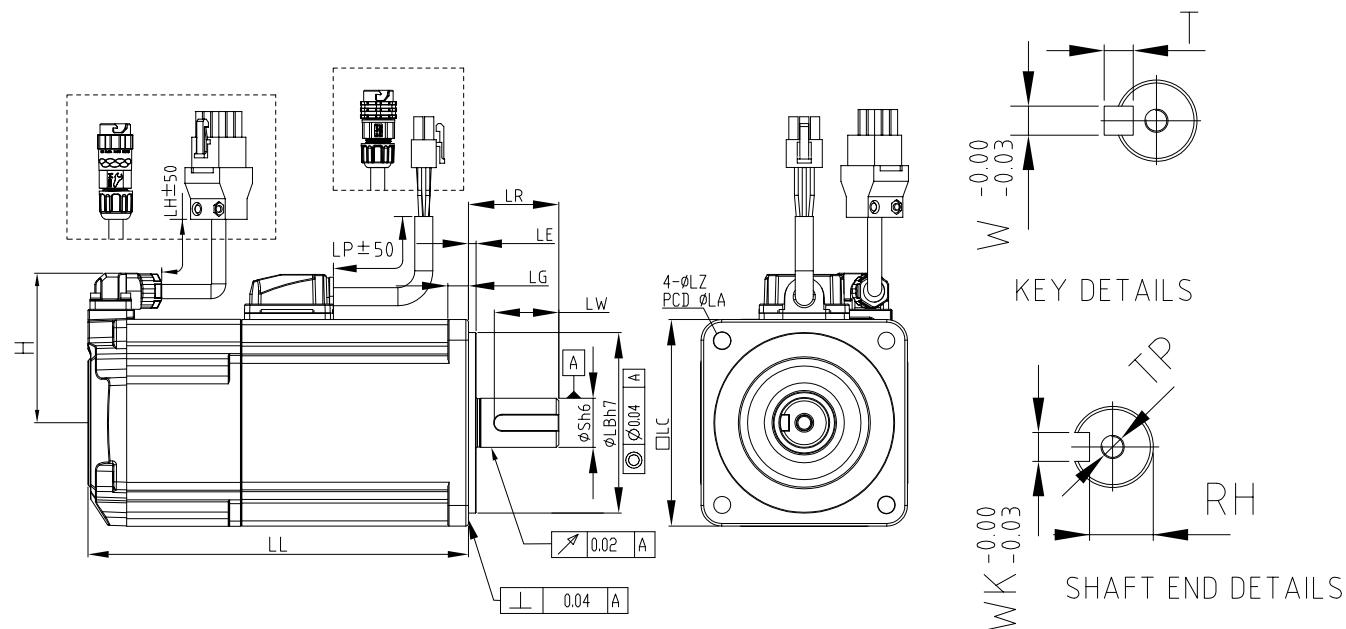


ECM-B3 Series Servo Motor Specifications

Power Derating Curves



Dimensions of Motors with Frame Size of 80 mm or Below



Model	C 2 0401 3 4 5	C 2 0602 3 4 5	C 2 0604 3 4 5	C 2 0804 3 4 5	C 2 0807 3 4 5
LC	40	60	60	80	80
LZ	4.5	5.5	5.5	6.6	6.6
LA	46	70	70	90	90
S	8($^{+0}_{-0.009}$)	14($^{+0}_{-0.011}$)	14($^{+0}_{-0.011}$)	14($^{+0}_{-0.011}$)	19($^{+0}_{-0.013}$)
LB	30($^{+0}_{-0.021}$)	50($^{+0}_{-0.025}$)	50($^{+0}_{-0.025}$)	70($^{+0}_{-0.030}$)	70($^{+0}_{-0.030}$)
LL (w/o brake)	77.6	72.5	91	86.7	105.2
LL (with brake)	111.7	109.4	127.9	126.3	144.8
LH	300	300	300	300	300
LP	300	300	300	300	300
H	40	48.5	48.5	58.5	58.5
LR	25	30	30	30	35
LE	2.5	3	3	3	3
LG	5	7.5	7.5	8	8
LW	16	20	20	20	25
RH	6.2	11	11	11	15.5
WK	3	5	5	5	6
W	3	5	5	5	6
T	3	5	5	5	6
TP	M3 Depth 8	M4 Depth 15	M4 Depth 15	M4 Depth 15	M6 Depth 20

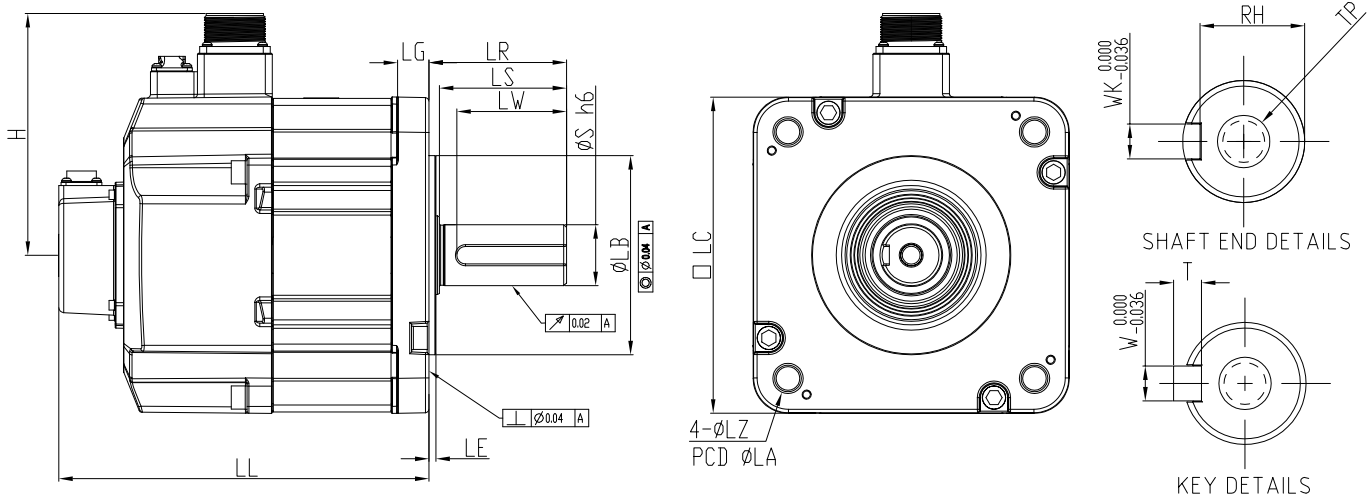
Notes:

1. In the servo motor model name, [2] represents the encoder type, [3] represents the brake or keyway / oil seal type, [4] represents the shaft diameter and connector type, and [5] represents the special code.

2. When [4] in the servo motor model name is J or K, the connector is an IP67 waterproof connector.

ECM-B3 Series Servo Motor Specifications

Dimensions of Motors with Frame Size of 130 to 180 mm



Model	E 2 1310 3 4 5	E 2 1315 3 4 5	E 2 1320 3 4 5	E 2 1820 3 4 5	F 2 1830 3 4 5
LC	130	130	130	180	180
LZ	9	9	9	13.5	13.5
LA	145	145	145	200	200
S	22(⁺⁰ _{-0.013})	22(⁺⁰ _{-0.013})	22(⁺⁰ _{-0.013})	35(⁺⁰ _{-0.016})	35(⁺⁰ _{-0.016})
LB	110(⁺⁰ _{-0.035})	110(⁺⁰ _{-0.035})	110(⁺⁰ _{-0.035})	114.3(⁺⁰ _{-0.035})	114.3(⁺⁰ _{-0.035})
LL(w/o brake)	127.9	139.9	151.9	137.5	160.5
LL(with brake)	168.5	180.5	192.5	189.5	212.5
H	115	115	115	139	139
LS	47	47	47	73	73
LR	55	55	55	79	79
LE	6	6	6	4	4
LG	12.5	12.5	12.5	18	18
LW	36	36	36	63	63
RH	18	18	18	30	30
WK	8	8	8	10	10
W	8	8	8	10	10
T	7	7	7	8	8
TP	M6 Depth 12	M6 Depth 12	M6 Depth 12	M12 Depth 25	M12 Depth 25

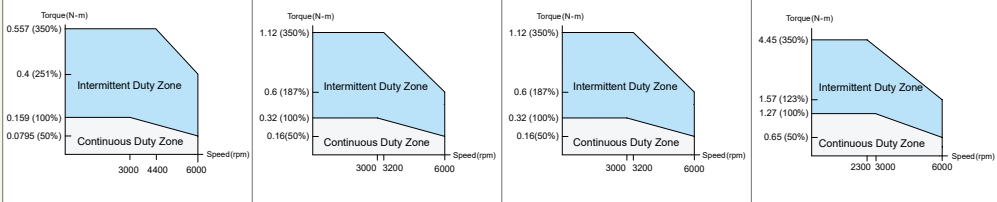
Notes:

In the servo motor model name, [2] represents the encoder type, [3] represents the brake or keyway / oil seal type, [4] represents the shaft diameter and connector type, and [5] represents the special code.

ECM-A3 Series Servo Motor Specifications

Electrical Specifications

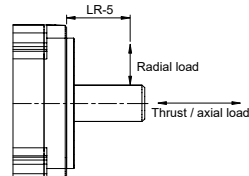
ECM-A3L Low Inertia Series Servo Motor

	ECM-A3L-C 2 040F ^{*1}	ECM-A3L-C 2 0401 ^{*1}	ECM-A3L-C 2 0602 ^{*1}	ECM-A3L-C 2 0604 ^{*1}
Rated Power (kW)	0.05	0.1	0.2	0.4
Rated Torque (N·m) ^{*1}	0.159	0.32	0.64	1.27
Maximum Torque (N·m)	0.557	1.12	2.24	4.45
Rated Speed (rpm)	3000			
Maximum Speed (rpm)	6000			
Rated Current (Arms)	0.66	0.9	1.45	2.65
Max. Instantaneous Current (Arms)	2.82	3.88	6.2	10.1
Rated Power Rate (kW/s) ^{*5}	11 (9.9)	25.6 (24)	45.5 (34.1)	107.5 (89.6)
Rotor Inertia ($\times 10^{-4}$ kg·m ²) ^{*5}	0.0229 (0.0255)	0.04 (0.0426)	0.09 (0.12)	0.15 (0.18)
Mechanical Time Constant (ms) ^{*5}	1.28 (1.44)	0.838 (0.892)	0.64 (0.85)	0.41 (0.5)
Torque Constant -KT (N·m/A)	0.241	0.356	0.441	0.479
Voltage Constant -KE (mV/(rpm))	9.28	13.3	16.4	18
Armature Resistance (Ohm)	12.1	9.47	4.9	2.27
Armature Inductance (mH)	18.6	16.2	18.52	10.27
Electrical Time Constant (ms)	1.54	1.71	3.78	4.52
Brake Holding Torque [N·m (min)] ^{*2}	0.32	0.32	1.3	1.3
Brake Power Consumption (at 20°C)[W]	6.1	6.1	7.2	7.2
Brake Release Time [ms (Max.)]	20	20	20	20
Brake Pull-In Time [ms (Max.)]	35	35	50	50
Max. Radial Loading (N)	78	78	245	245
Max. Axial Loading (N)	54	54	74	74
Weight (kg) ^{*5}	0.38 (0.68)	0.5 (0.8)	1.1 (1.6)	1.4 (1.9)
Derating (%) (with oil seal)	20	10	10	5
Torque Feature (T-N Curve)				
Insulation Class	Class A (UL), Class B (CE)			
Insulation Resistance	> 100 MΩ, DC 500V			
Insulation Strength	1.8 kVac, 1 sec			
Vibration Level (μm)	V15			
Operating Temperature	0°C ~ 40°C ^{*3}			
Storage Temperature	-10°C ~ 80°C ^{*3}			
Storage & Operation Humidity	20 ~ 90%RH (non-condensing)			
Vibration Capacity	2.5 G			
IP Rating	IP67 (when using waterproof connections and when an oil seal is fitted to the rotating shaft (for an oil seal model))			
Certifications				

Notes:

- In the servo motor model name, [1] represents the motor inertia and [2] represents the encoder type.
- The rated torque is the continuous permissible torque between 0 to 40°C operating temperature which is suitable for the servo motor mounted with the following heat sink dimensions.
F40, F60, F80: 250 mm x 250 mm x 6 mm
Material: aluminum
- () = motor with brake
- The built-in servo motor brake is only for keeping the object in a stopped state.
Do not use it for deceleration or as a dynamic brake

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



ECM-A3 Series Servo Motor Specifications

Electrical Specifications

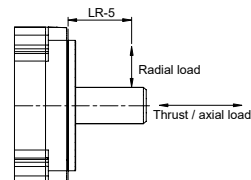
ECM-A3L Low Inertia Series Servo Motor / ECM-A3H High Inertia Series Servo Motor

	ECM-A3L-C [2] 0804 ^{*1}	ECM-A3L-C [2] 0807 ^{*1}	ECM-A3H-C [2] 040F ^{*1}	ECM-A3H-C [2] 0401 ^{*1}
Rated Power (kW)	0.4	0.75	0.05	0.1
Rated Torque (N·m) ^{*1}	1.27	2.39	0.159	0.32
Maximum Torque (N·m)	4.44	8.36	0.557	1.12
Rated Speed (rpm)	3000			
Maximum Speed (rpm)	6000			
Rated Current (Arms)	2.6	5.1	0.64	0.9
Max. Instantaneous Current (Arms)	10.6	20.6	2.59	3.64
Rated Power Rate (kW/s) ^{*5}	45.8 (39.5)	102.2 (93)	5.56 (4.89)	13.6 (12.5)
Rotor Inertia ($\times 10^{-4}$ kg·m ²) ^{*5}	0.352 (0.408)	0.559 (0.614)	0.0455 (0.0517)	0.0754 (0.0816)
Mechanical Time Constant (ms) ^{*5}	0.68 (0.78)	0.44 (0.48)	2.52 (2.86)	1.43 (1.55)
Torque Constant -KT (N·m/A)	0.488	0.469	0.248	0.356
Voltage Constant -KE (mV/(rpm))	17.9	17	9.54	12.9
Armature Resistance (Ohm)	1.6	0.6	12.5	8.34
Armature Inductance (mH)	10.6	4.6	13.34	11
Electrical Time Constant (ms)	6.63	7.67	1.07	1.32
Brake Holding Torque [N·m (min)] ^{*4}	2.5	2.5	0.32	0.32
Brake Power Consumption (at 20°C)[W]	8	8	6.1	6.1
Brake Release Time [ms (Max.)]	20	20	20	20
Brake Pull-In Time [ms (Max.)]	60	60	35	35
Max. Radial Loading (N)	392	392	78	78
Max. Axial Loading (N)	147	147	54	54
Weight (kg) ^{*5}	2.05 (2.85)	2.8 (3.6)	0.38 (0.68)	0.5 (0.8)
Derating (%) (with oil seal)	5	5	20	10
Torque Feature (T-N Curve)				
Insulation Class	Class A (UL), Class B (CE)			
Insulation Resistance	100 MΩ, DC 500V and above			
Insulation Strength	1.8k Vac, 1 sec			
Vibration Level (μm)	V15			
Operating Temperature	0°C ~ 40°C ^{*3}			
Storage Temperature	-10°C ~ 80°C ^{*3}			
Storage & Operation Humidity	20 ~ 90%RH (non-condensing)			
Vibration Capacity	2.5 G			
IP Rating	IP67 (when using waterproof connections and when an oil seal is fitted to the rotating shaft (for an oil seal model))			
Certifications				

Notes:

- In the servo motor model name, [] represents the motor inertia and [2] represents the encoder type.
- The rated torque is the continuous permissible torque between 0 to 40°C operating temperature which is suitable for the servo motor mounted with the following heat sink dimensions.
F40, F60, F80: 250 mm x 250 mm x 6 mm
Material: aluminum
- () = motor with brake
- The built-in servo motor brake is only for keeping the object in a stopped state.
Do not use it for deceleration or as a dynamic brake

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



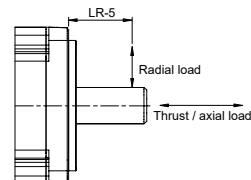
ECM-A3H High Inertia Series Servo Motor

	ECM-A3H-C 2 0602 ^{*1}	ECM-A3H-C 2 0604 ^{*1}	ECM-A3H-C 2 0804 ^{*1}	ECM-A3H-C 2 0807 ^{*1}
Rated Power (kW)	0.2	0.4	0.4	0.75
Rated Torque (N·m) ^{*1}	0.64	1.27	1.27	2.39
Maximum Torque (N·m)	2.24	4.45	4.44	8.36
Rated Speed (rpm)	3000			
Maximum Speed (rpm)	6000			
Rated Current (Arms)	1.45	2.65	2.6	4.61
Max. Instantaneous Current (Arms)	5.3	9.8	9.32	16.4
Rated Power Rate (kW/s) ^{*5}	16.4 (14.6)	35.8 (33.6)	17.5 (15.07)	37.8 (34.41)
Rotor Inertia ($\times 10^{-4}$ kg·m ²) ^{*5}	0.25 (0.28)	0.45 (0.48)	0.92 (1.07)	1.51 (1.66)
Mechanical Time Constant (ms) ^{*5}	1.38 (1.54)	0.96 (1.02)	1.32 (1.54)	0.93 (1.02)
Torque Constant -KT (N·m/A)	0.441	0.479	0.49	0.52
Voltage Constant -KE (mV/(rpm))	16.4	17.2	17.9	18.7
Armature Resistance (Ohm)	3.8	1.68	1.19	0.57
Armature Inductance (mH)	8.15	4.03	4.2	2.2
Electrical Time Constant (ms)	2.14	2.40	3.53	3.86
Brake Holding Torque [Nt·m (min)] ^{*2}	1.3	1.3	2.5	2.5
Brake Power Consumption (at 20°C)[W]	7.2	7.2	8	8
Brake Release Time [ms (Max.)]	20	20	20	20
Brake Pull-In Time [ms (Max.)]	50	50	60	60
Max. Radial Loading (N)	245	245	392	392
Max. Axial Loading (N)	74	74	147	147
Weight (kg) ^{*5}	1.1 (1.6)	1.4 (1.9)	2.05 (2.85)	2.8 (3.6)
Derating (%) (with oil seal)	10	5	5	5
Torque Feature (T-N Curve)				
Insulation Class	Class A (UL), Class B (CE)			
Insulation Resistance	100 MΩ, DC 500V and above			
Insulation Strength	1.8k Vac, 1 sec			
Vibration Level (μm)	V15			
Operating Temperature	0°C ~ 40°C ^{*3}			
Storage Temperature	-10°C ~ 80°C ^{*3}			
Storage & Operation Humidity	20 ~ 90%RH (non-condensing)			
Vibration Capacity	2.5 G			
IP Rating	IP67 (when using waterproof connections and when an oil seal is fitted to the rotating shaft (for an oil seal model))			
Certifications				

Notes:

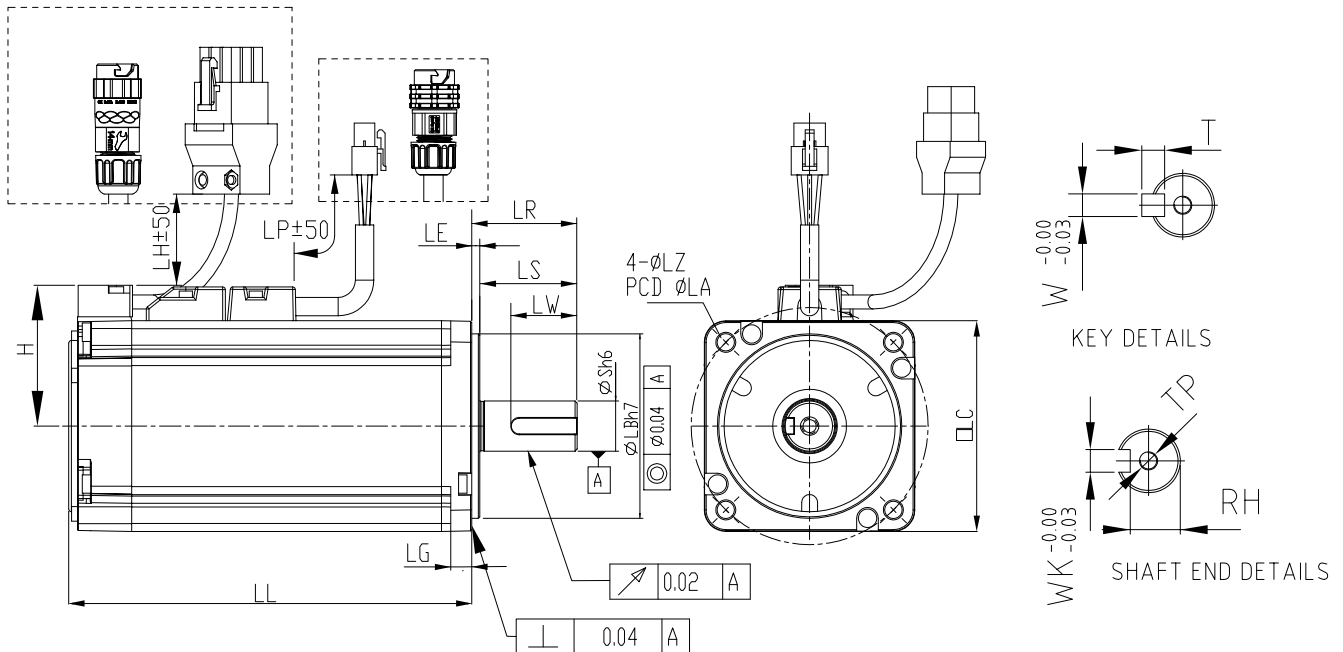
- In the servo motor model name, [1] represents the motor inertia and [2] represents the encoder type.
- The rated torque is the continuous permissible torque between 0 to 40°C operating temperature which is suitable for the servo motor mounted with the following heat sink dimensions.
F40, F60, F80: 250 mm x 250 mm x 6 mm
Material: aluminum
- () = motor with brake
- The built-in servo motor brake is only for keeping the object in a stopped state.
Do not use it for deceleration or as a dynamic brake

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



ECM-A3 Series Servo Motor Specifications

Dimensions of Motors with Frame Size of 80 mm and Below

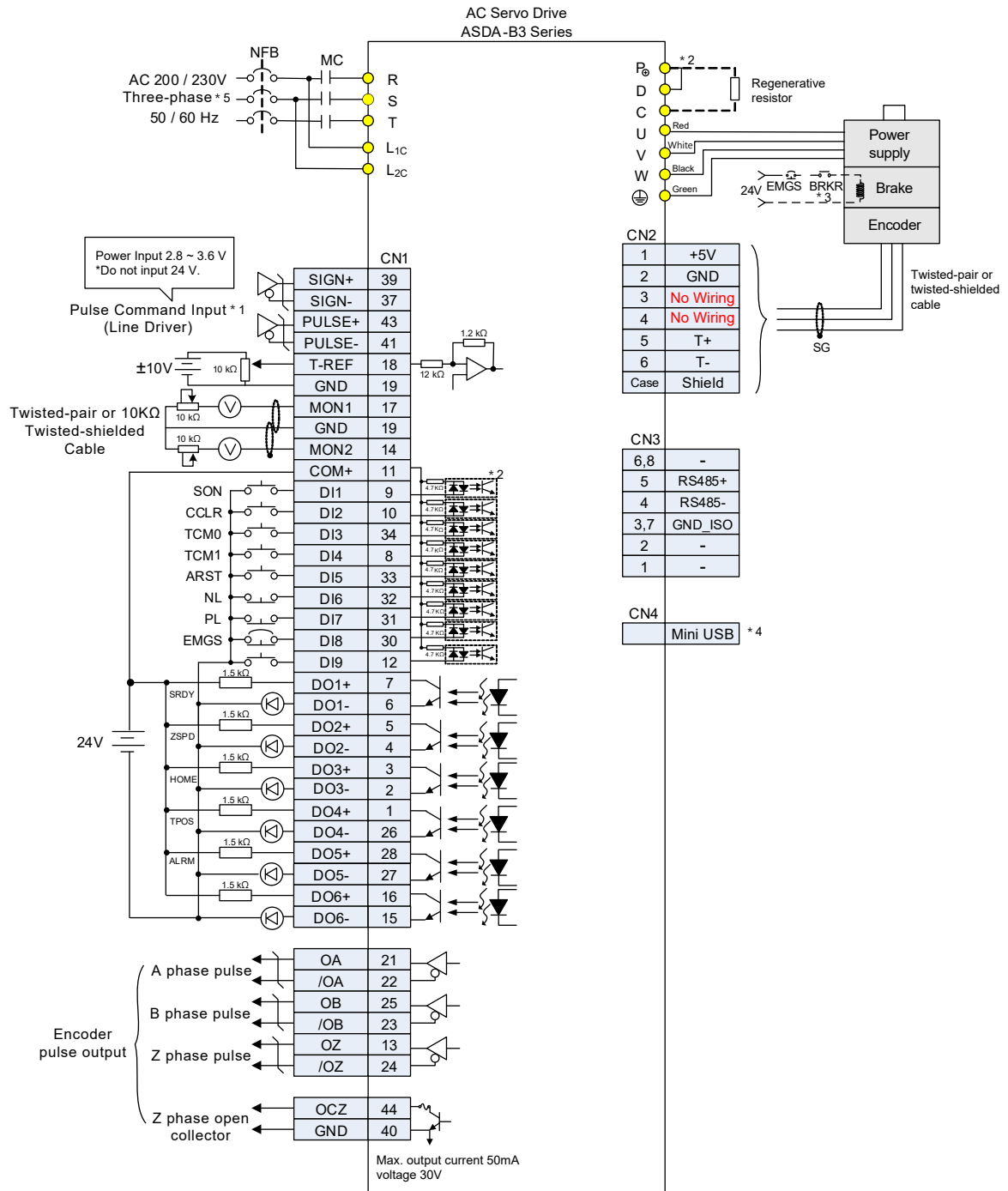


Model	C 2 040F 3 4 5	C 2 0401 3 4 5	C 2 0602 3 4 5	C 2 0604 3 4 5	C 2 0804 3 4 5	C 2 0807 3 4 5
LC	40	40	60	60	80	80
LZ	4.5	4.5	5.5	5.5	6.6	6.6
LA	46	46	70	70	90	90
S	8($\begin{smallmatrix} +0 \\ -0.009 \end{smallmatrix}$)	8($\begin{smallmatrix} +0 \\ -0.009 \end{smallmatrix}$)	14($\begin{smallmatrix} +0 \\ -0.011 \end{smallmatrix}$)	14($\begin{smallmatrix} +0 \\ -0.011 \end{smallmatrix}$)	14($\begin{smallmatrix} +0 \\ -0.011 \end{smallmatrix}$)	19($\begin{smallmatrix} +0 \\ -0.013 \end{smallmatrix}$)
LB	30($\begin{smallmatrix} +0 \\ -0.021 \end{smallmatrix}$)	30($\begin{smallmatrix} +0 \\ -0.021 \end{smallmatrix}$)	50($\begin{smallmatrix} +0 \\ -0.025 \end{smallmatrix}$)	50($\begin{smallmatrix} +0 \\ -0.025 \end{smallmatrix}$)	70($\begin{smallmatrix} +0 \\ -0.030 \end{smallmatrix}$)	70($\begin{smallmatrix} +0 \\ -0.030 \end{smallmatrix}$)
LL (w/o brake)	70.6	85.3	84	106	93.7	115.8
LL (with brake)	105.4	120.1	117.6	139.7	131.2	153.2
LH	300	300	300	300	300	300
LP	300	300	300	300	300	300
H	34	34	43.5	43.5	54.5	54.5
LS	21.5	21.5	27	27	27	37
LR	25	25	30	30	30	40
LE	2.5	2.5	3	3	3	3
LG	5	5	7.5	7.5	8	8
LW	16	16	20	20	20	25
RH	6.2	6.2	11	11	11	15.5
WK	3	3	5	5	5	6
W	3	3	5	5	5	6
T	3	3	5	5	5	6
TP	M3 Depth 6	M3 Depth 6	M4 Depth 8	M4 Depth 8	M4 Depth 8	M6 Depth 10

Notes:

- In the servo motor model name, [2] represents the encoder type, [3] represents the brake or keyway / oil seal type, [4] represents the shaft diameter and connector type, and [5] represents the special code.
- When the special code of the C 2 0807 [3] [4] [5] model is Z, then its LS = 32 and LR = 35.
- When the [4] in the motor model name is J or K, the connector is an IP67 waterproof connector.

Position (PT) Mode Standard Wiring (differential pulse signals)



Notes:

*1: Refer to Section 3.3.7 in the ASDA-B3 user manual for CN1 wiring.

*2: Models of 200 W and below have no built-in brake resistor.

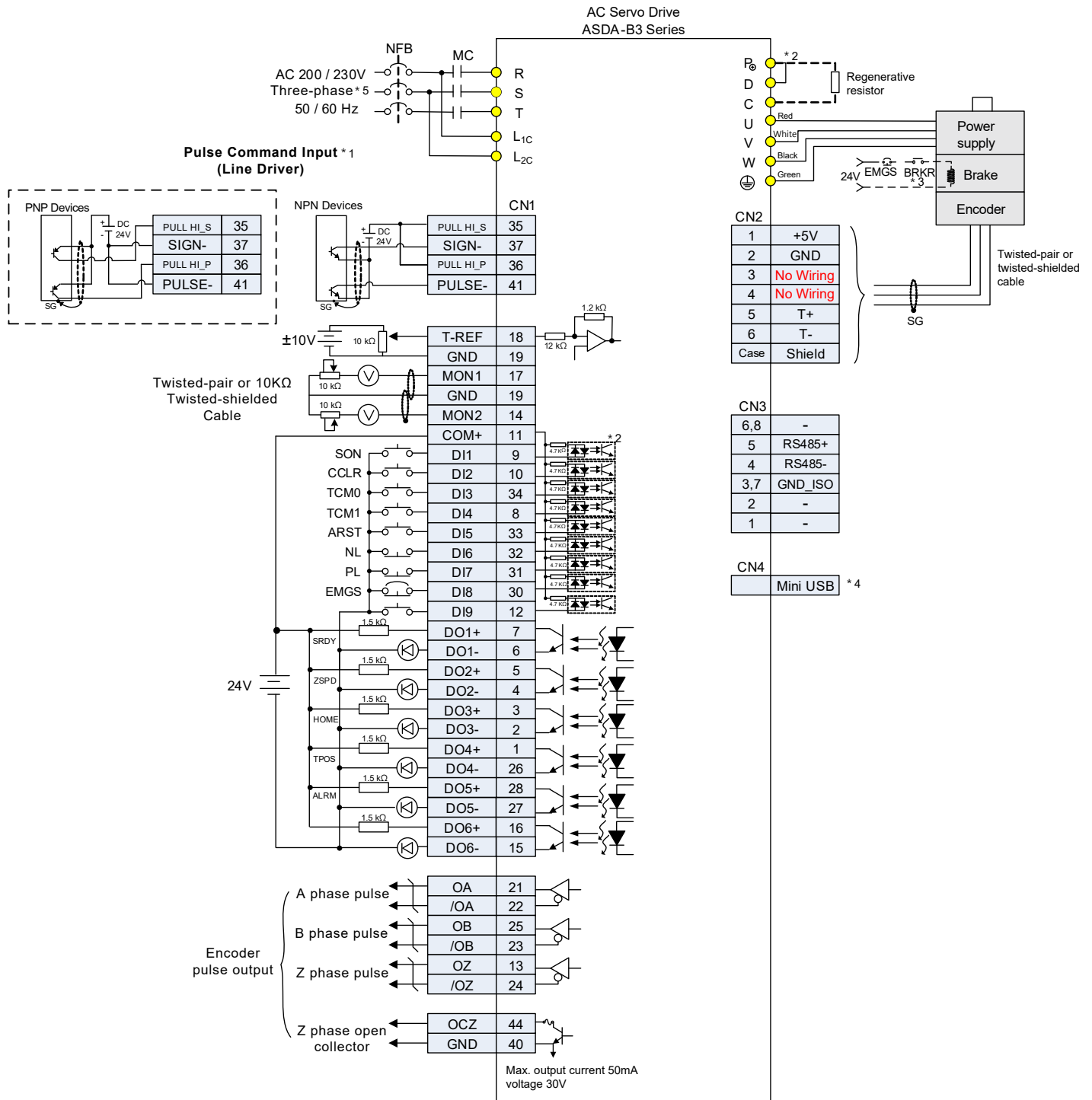
*3: The brake coil has no polarity.

*4: Connects to Mini USB (for PC communication).

*5: Models of 1.5 kW and below can use single-phase power supply.

Control Mode Wiring

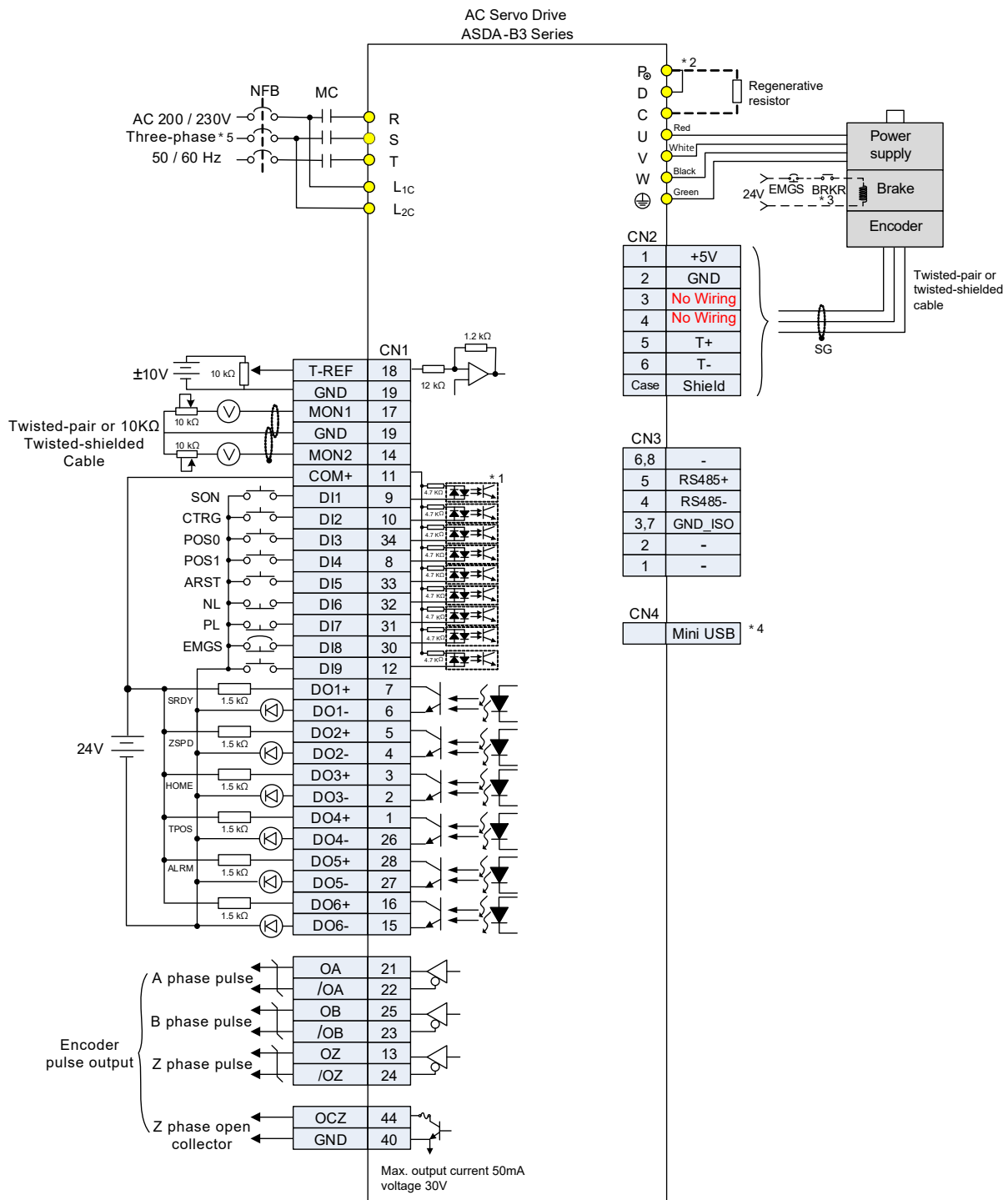
Position (PT) Control Mode (open-collector pulse signals)



Notes:

- *1: Refer to Section 3.3.7 in the ASDA-B3 user manual for CN1 wiring.
- *2: Models of 200W and below have no built-in brake resistor.
- *3: The brake coil has no polarity.
- *4: Connects to Mini USB (for PC communication).
- *5: Models of 1.5 kW and below can use single-phase power supply.

Position (PR) Mode Standard Wiring (internal position commands)



Notes:

*1: Refer to Section 3.3.7 in the ASDA-B3 user manual for CN1 wiring.

*2: Models of 200W and below have nobuilt-in brake resistor.

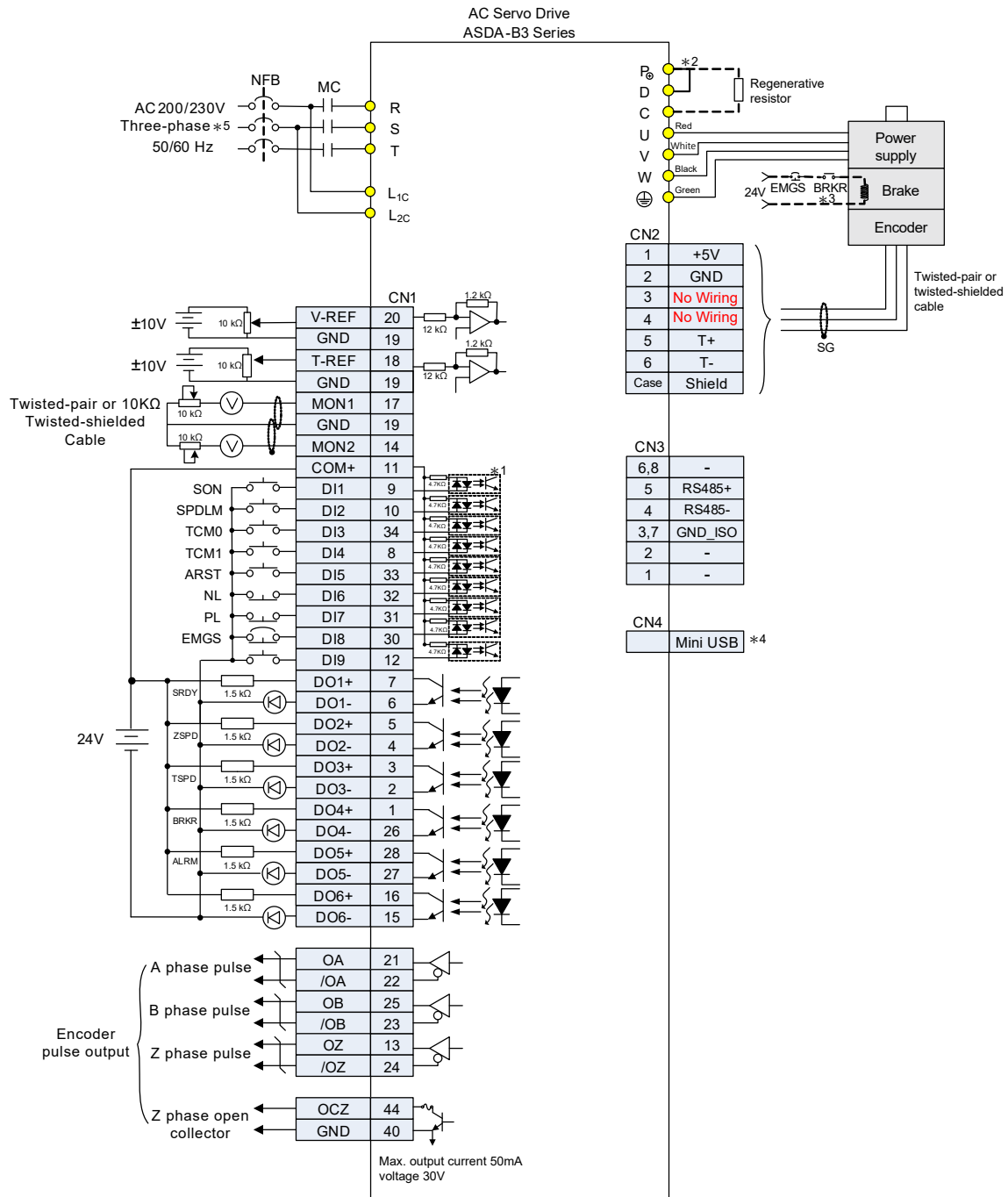
*3: The brake coil has no polarity.

*4: Connects to Mini USB (for PC communication).

*5: Models of 1.5 kW and below can use single-phase power supply.

Control Mode Wiring

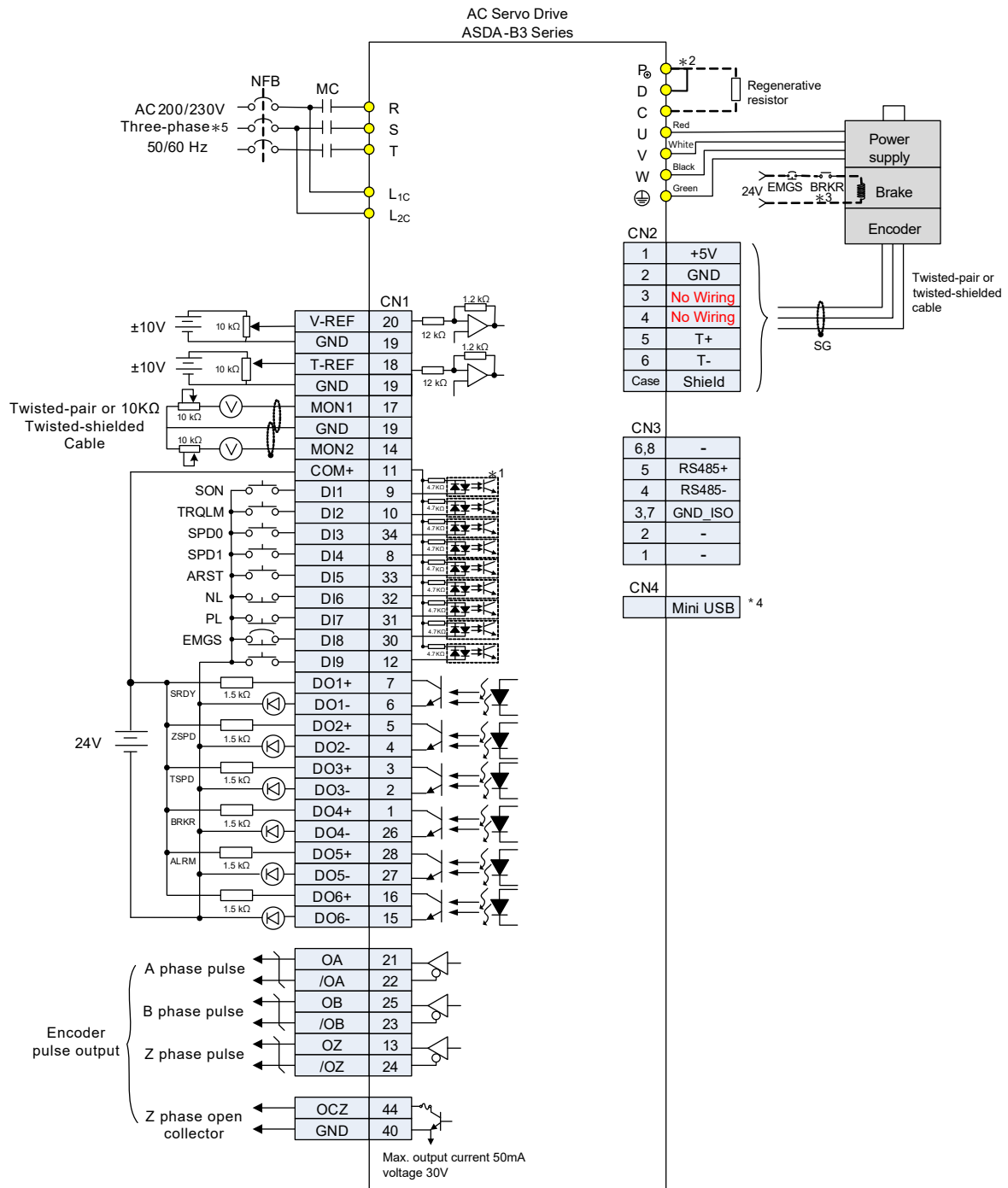
Torque (T) Mode Standard Wiring



Notes:

- *1: Refer to Section 3.3.7 in the ASDA-B3 user manual for CN1 wiring.
- *2: Models of 200 W and below have no built-in brake resistor.
- *3: The brake coil has no polarity.
- *4: Connects to Mini USB (for PC communication).
- *5: Models of 1.5 kW and below can use single-phase power supply.

Speed (S) Mode Standard Wiring

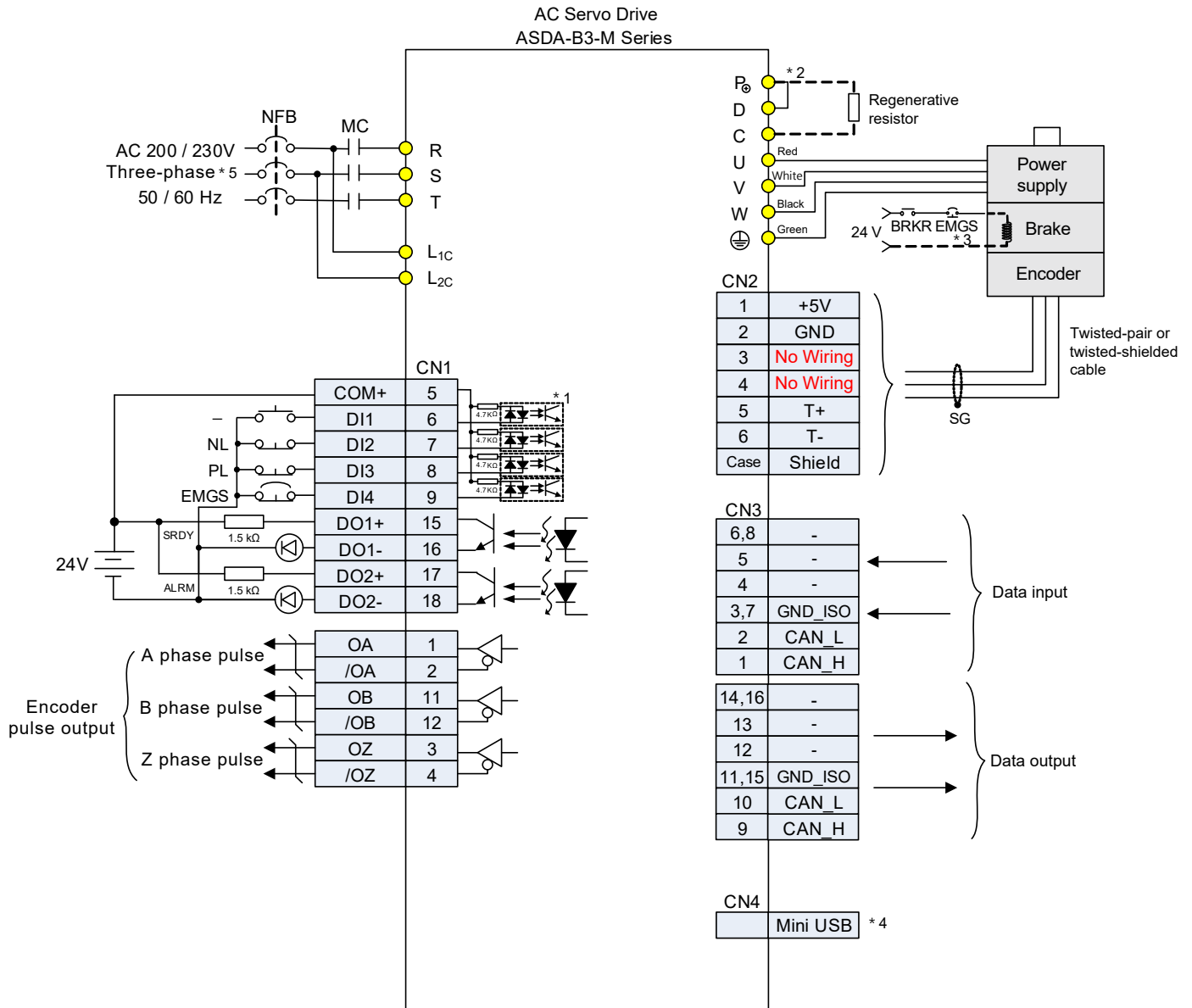


Notes:

- *1: Refer to Section 3.3.7 in the ASDA-B3 user manual for CN1 wiring.
- *2: Models of 200W and below have no built-in brake resistor.
- *3: The brake coil has no polarity.
- *4: Connects to Mini USB (for PC communication).
- *5: Models of 1.5 kW and below can use single-phase power supply.

Control Mode Wiring

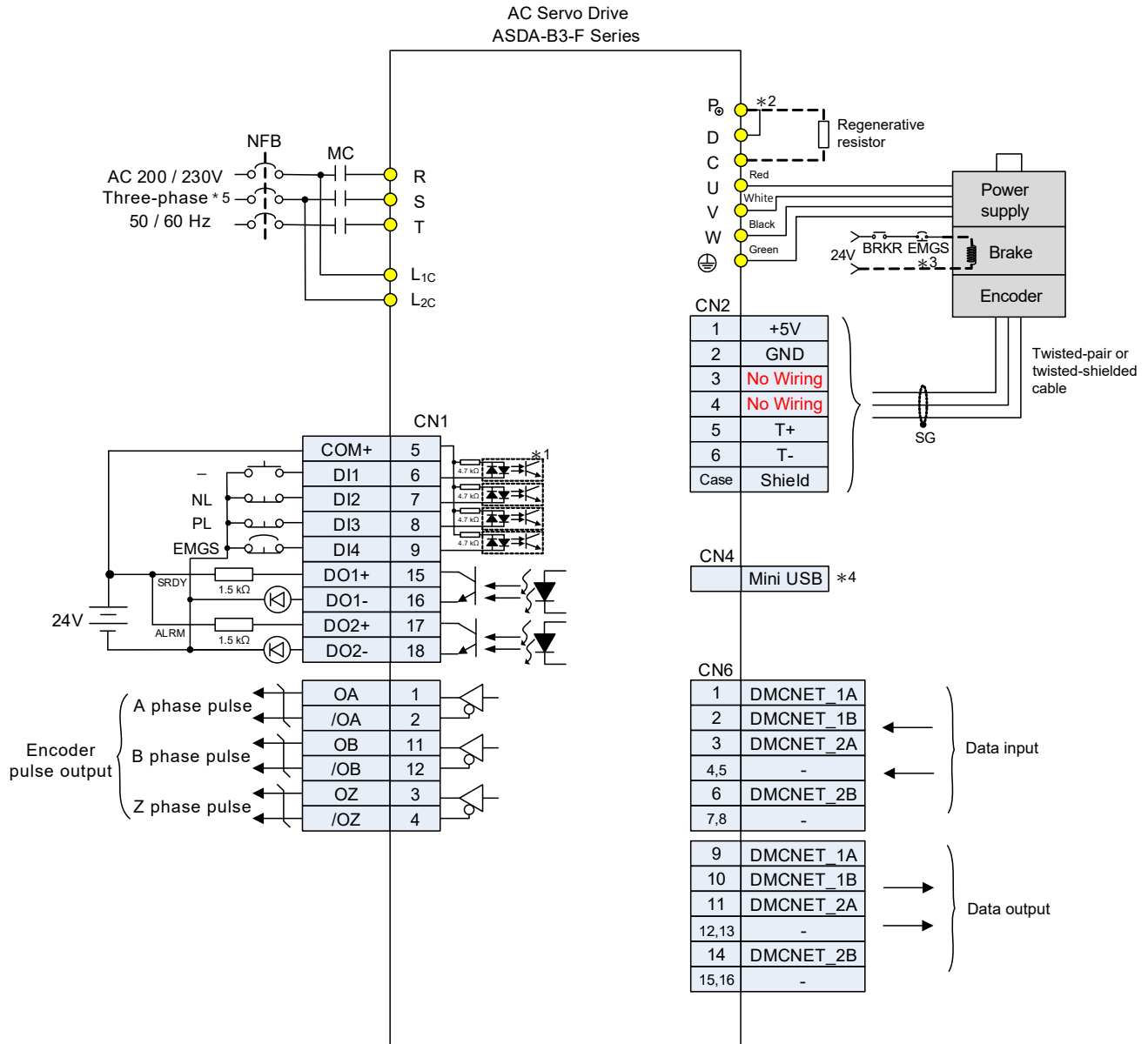
CANopen Communication Mode Standard Wiring



Notes:

- *1: Refer to Section 3.3.7 in the ASDA-B3 user manual for CN1 wiring.
- *2: Models of 200W and below have no built-in brake resistor.
- *3: The brake coil has no polarity.
- *4: Connects to Mini USB (for PC communication).
- *5: Models of 1.5 kW and below can use single-phase power supply.

DMCNET Communication Mode Standard Wiring



Notes:

*1: Refer to Section 3.3.7 in the ASDA-B3 user manual for CN1 wiring.

*2: Models of 200 W and below have no built-in brake resistor.

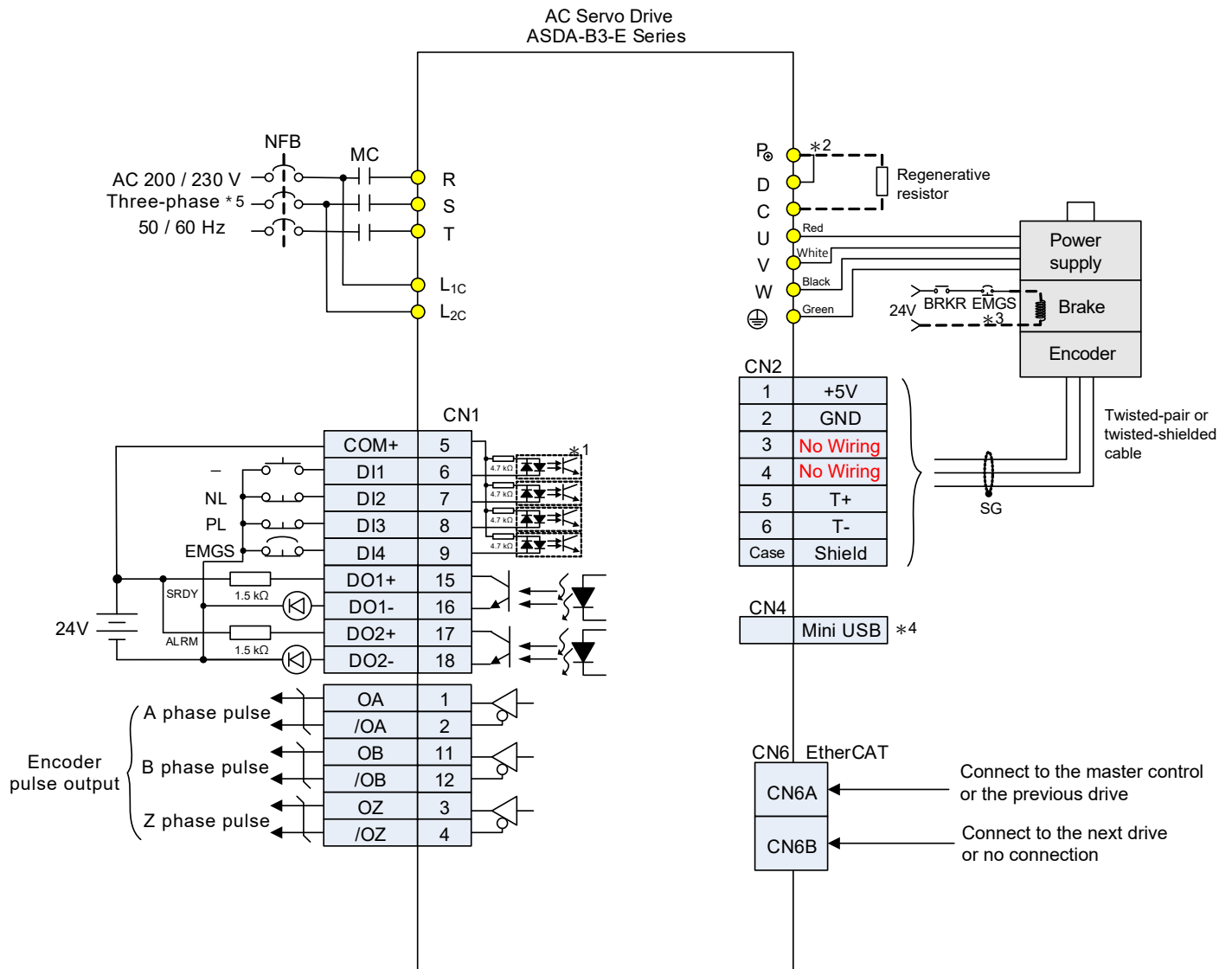
*3: The brake coil has no polarity.

*4: Connects to Mini USB (for PC communication).

*5: Models of 1.5 kW and below can use single-phase power supply.

Control Mode Wiring

EtherCAT Communication Mode Standard Wiring



Notes:

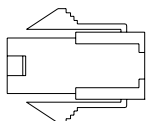
- *1: Refer to Section 3.3.7 in the ASDA-B3 user manual for CN1 wiring.
- *2: Models of 200 W and below have no built-in brake resistor.
- *3: The brake coil has no polarity.
- *4: Connects to Mini USB (for PC communication).
- *5: Models of 1.5 kW and below can use single-phase power supply.

Ordering Information

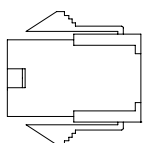
Accessories

Power Connectors

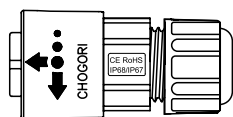
ASDBCAPW0000
(for F80 and below)



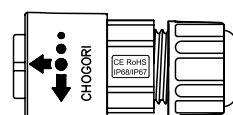
ASDBCAPW0100
(for F80 and below with brake)



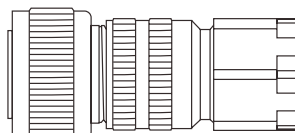
ACS3-CNPW1A00
(for F80 and below)
IP67 waterproof connector



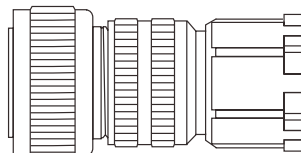
ACS3-CNPW2A00
(for F80 and below with brake)
IP67 waterproof connector



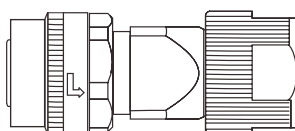
ACS3-CNPW5200
(for F100 ~ F130)
Mil-Spec: MIL 3106A18-10S



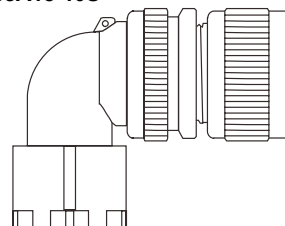
ACS3-CNPW5300
(for F180)
Mil-Spec: MIL 3106A22-22S



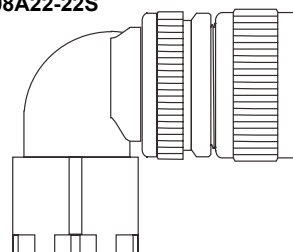
ACS3-CNPW6300
(F100 ~ F180 with brake)
Mil-Spec: CMV1-SP2S



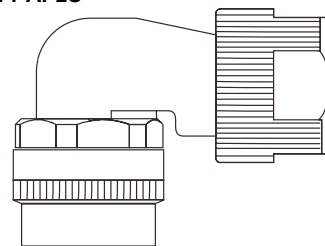
ACS3-CNPW5C00
(for F100 ~ F130 models)
Mil-Spec: MIL 3108A18-10S



ACS3-CNPW5D00
(for F180)
Mil-Spec: MIL 3108A22-22S

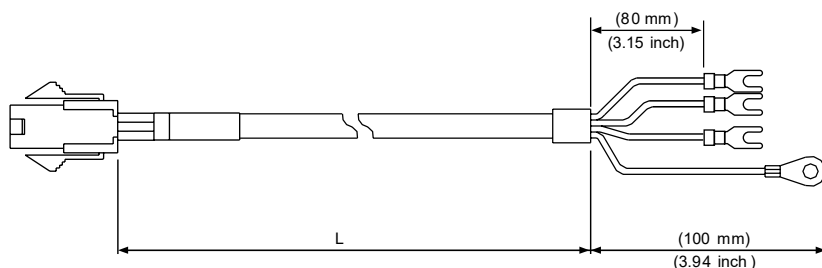


ACS3-CNPW6D00
(F100 ~ F180 with brake)
Mil-Spec: CMV1-AP2S



Power Cables

ACS3-CAPW3103, ACS3-CAPW3105, ACS3-CAPW3110, ACS3-CAPW3120, ACS3-CAPF3103, ACS3-CAPF3105, ACS3-CAPF3110, ACS3-CAPF3120
(for F80 and below)



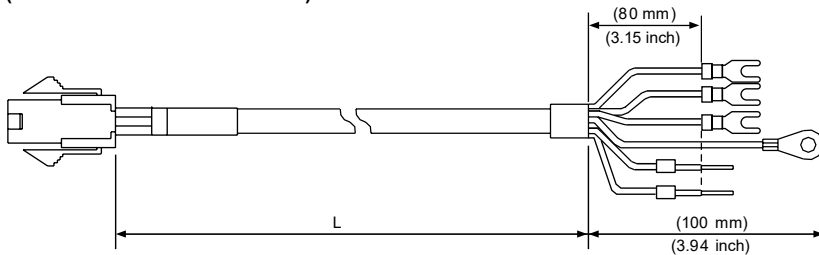
Cable	Part No.	L	
		mm	inch
Standard	ACS3-CAPW3103	3000 ± 50	118 ± 2
	ACS3-CAPW3105	5000 ± 50	197 ± 2
	ACS3-CAPW3110	10000 ± 100	394 ± 4
	ACS3-CAPW3120	20000 ± 100	788 ± 4
Torsion-Resistant	ACS3-CAPF3103	3000 ± 50	118 ± 2
	ACS3-CAPF3105	5000 ± 50	197 ± 2
	ACS3-CAPF3110	10000 ± 100	394 ± 4
	ACS3-CAPF3120	20000 ± 100	788 ± 4

Ordering Information

Accessories

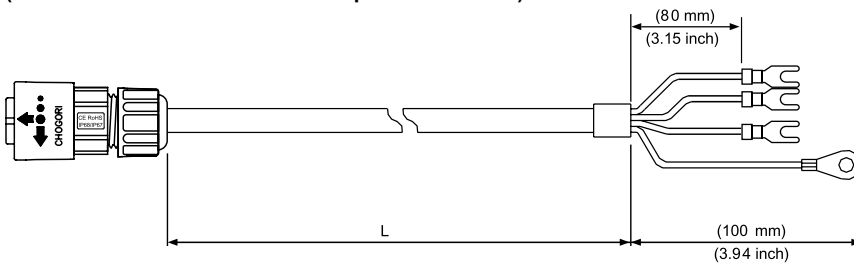
Power Cables

ACS3-CAPW4103, ACS3-CAPW4105, ACS3-CAPW4110, ACS3-CAPW4120, ACS3-CAPF4103, ACS3-CAPF4105, ACS3-CAPF4110, ACS3-CAPF4120
(for F80 and below with brake)



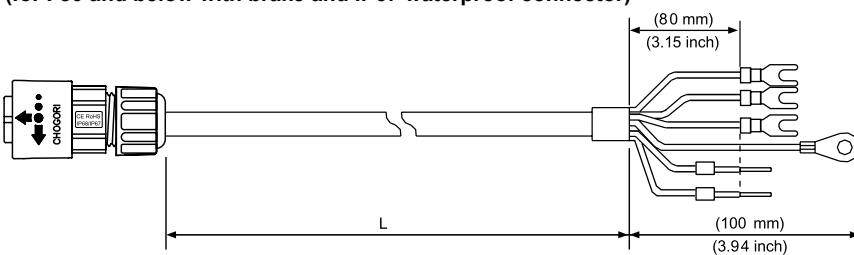
Cable	Part No.	L	
		mm	inch
Standard	ACS3-CAPW4103	3000 ± 50	118 ± 2
	ACS3-CAPW4105	5000 ± 50	197 ± 2
	ACS3-CAPW4410	10000 ± 100	394 ± 4
	ACS3-CAPW4120	20000 ± 100	788 ± 4
Torsion-Resistant	ACS3-CAPF4103	3000 ± 50	118 ± 2
	ACS3-CAPF4105	5000 ± 50	197 ± 2
	ACS3-CAPF4110	10000 ± 100	394 ± 4
	ACS3-CAPF4120	20000 ± 100	788 ± 4

ACS3-CAPW3A03, ACS3-CAPW3A05, ACS3-CAPW3A10, ACS3-CAPW3A20, ACS3-CAPF3A03, ACS3-CAPF3A05, ACS3-CAPF3A10, ACS3-CAPF3A20
(for F80 and below with IP67 waterproof connector)



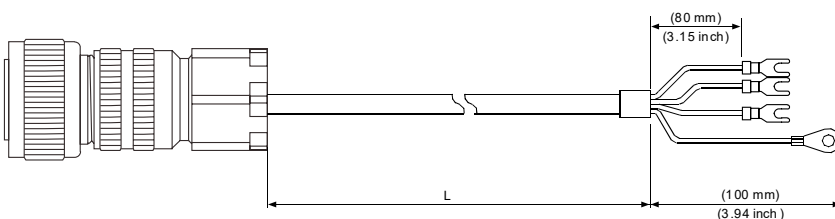
Cable	Part No.	L	
		mm	inch
Standard	ACS3-CAPW3A03	3000 ± 50	118 ± 2
	ACS3-CAPW3A05	5000 ± 50	197 ± 2
	ACS3-CAPW3A10	10000 ± 100	394 ± 4
	ACS3-CAPW3A20	20000 ± 100	788 ± 4
Torsion-Resistant	ACS3-CAPF3A03	3000 ± 50	118 ± 2
	ACS3-CAPF3A05	5000 ± 50	197 ± 2
	ACS3-CAPF3A10	10000 ± 100	394 ± 4
	ACS3-CAPF3A20	20000 ± 100	788 ± 4

ACS3-CAPW4A03, ACS3-CAPW4A05, ACS3-CAPW4A10, ACS3-CAPW4A20, ACS3-CAPF4A03, ACS3-CAPF4A05, ACS3-CAPF4A10, ACS3-CAPF4A20
(for F80 and below with brake and IP67 waterproof connector)



Cable	Part No.	L	
		mm	inch
Standard	ACS3-CAPW4A03	3000 ± 50	118 ± 2
	ACS3-CAPW4A05	5000 ± 50	197 ± 2
	ACS3-CAPW4A10	10000 ± 100	394 ± 4
	ACS3-CAPW4A20	20000 ± 100	788 ± 4
Torsion-Resistant	ACS3-CAPF4A03	3000 ± 50	118 ± 2
	ACS3-CAPF4A05	5000 ± 50	197 ± 2
	ACS3-CAPF4A10	10000 ± 100	394 ± 4
	ACS3-CAPF4A20	20000 ± 100	788 ± 4

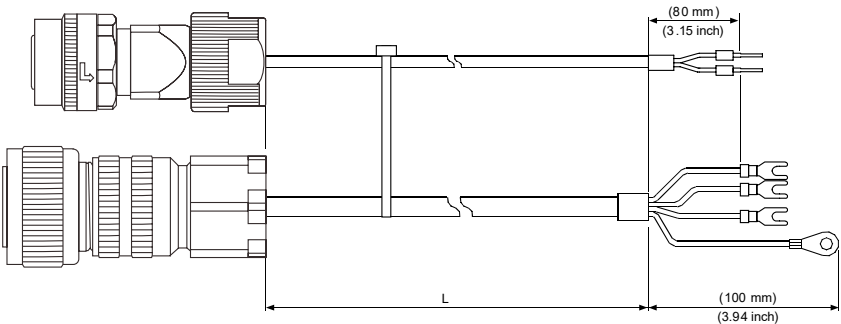
ACS3-CAPW3203, ACS3-CAPW3205, ACS3-CAPW3210, ACS3-CAPW3220, ACS3-CAPF3203, ACS3-CAPF3205, ACS3-CAPF3210, ACS3-CAPF3220
(for F100 - F130)



Cable	Part No.	L	
		mm	inch
Standard	ACS3-CAPW3203	3000 ± 50	118 ± 2
	ACS3-CAPW3205	5000 ± 50	197 ± 2
	ACS3-CAPW3210	10000 ± 100	394 ± 4
	ACS3-CAPW3220	20000 ± 100	788 ± 4
Torsion-Resistant	ACS3-CAPF3203	3000 ± 50	118 ± 2
	ACS3-CAPF3205	5000 ± 50	197 ± 2
	ACS3-CAPF3210	10000 ± 100	394 ± 4
	ACS3-CAPF3220	20000 ± 100	788 ± 4

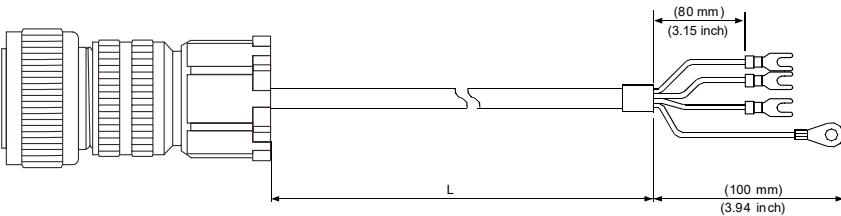
Power Cables

ACS3-CAPW4203, ACS3-CAPW4205, ACS3-CAPW4210, CS3-CAPW4220,
ACS3-CAPF4203, ACS3-CAPF4205, ACS3-CAPF4210, ACS3-CAPF4220
(for F100 - F130 with brake)



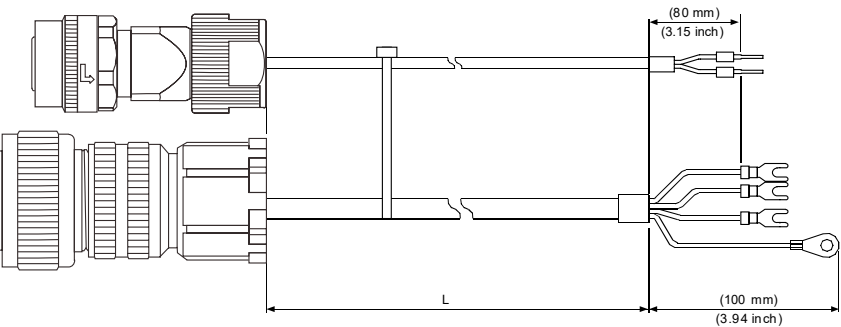
Cable	Part No.	L	
		mm	inch
Standard	ACS3-CAPW4203	3000 ± 50	118 ± 2
	ACS3-CAPW4205	5000 ± 50	197 ± 2
	ACS3-CAPW4210	10000 ± 100	394 ± 4
	ACS3-CAPW4220	20000 ± 100	788 ± 4
Torsion-Resistant	ACS3-CAPF4203	3000 ± 50	118 ± 2
	ACS3-CAPF4205	5000 ± 50	197 ± 2
	ACS3-CAPF4210	10000 ± 100	394 ± 4
	ACS3-CAPF4220	20000 ± 100	788 ± 4

ACS3-CAPW3403, ACS3-CAPW3405, ACS3-CAPW3410, ACS3-CAPW3420,
ACS3-CAPF3403, ACS3-CAPF3405, ACS3-CAPF3410, ACS3-CAPF3420
(for F180)



Cable	Part No.	L	
		mm	inch
Standard	ACS3-CAPW3403	3000 ± 50	118 ± 2
	ACS3-CAPW3405	5000 ± 50	197 ± 2
	ACS3-CAPW3410	10000 ± 100	394 ± 4
	ACS3-CAPW3420	20000 ± 100	788 ± 4
Torsion-Resistant	ACS3-CAPF3403	3000 ± 50	118 ± 2
	ACS3-CAPF3405	5000 ± 50	197 ± 2
	ACS3-CAPF3410	10000 ± 100	394 ± 4
	ACS3-CAPF3420	20000 ± 100	788 ± 4

ACS3-CAPW4403, ACS3-CAPW4405, ACS3-CAPW4410, ACS3-CAPW4420,
ACS3-CAPF4403, ACS3-CAPF4405, ACS3-CAPF4410, ACS3-CAPF4420
(for F180 with brake)



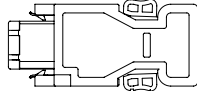
Cable	Part No.	L	
		mm	inch
Standard	ACS3-CAPW4403	3000 ± 50	118 ± 2
	ACS3-CAPW4405	5000 ± 50	197 ± 2
	ACS3-CAPW4410	10000 ± 100	394 ± 4
	ACS3-CAPW4420	20000 ± 100	788 ± 4
Torsion-Resistant	ACS3-CAPF4403	3000 ± 50	118 ± 2
	ACS3-CAPF4405	5000 ± 50	197 ± 2
	ACS3-CAPF4410	10000 ± 100	394 ± 4
	ACS3-CAPF4420	20000 ± 100	788 ± 4

Ordering Information

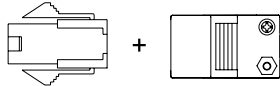
Accessories

Encoder Connectors

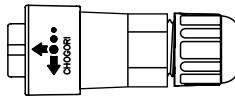
ACS3-CNENC200
(connecting to drive)



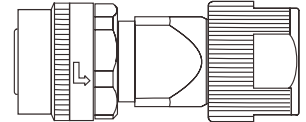
ACS3-CNEN1000
(for F80 and below)



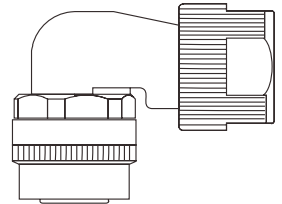
ACS3-CNEN2A00
(for F80 and below)
IP67 waterproof
connector



ACS3-CNEN2700
(for F100 ~ F180)
Mil-Spec: CMV1-SP10S

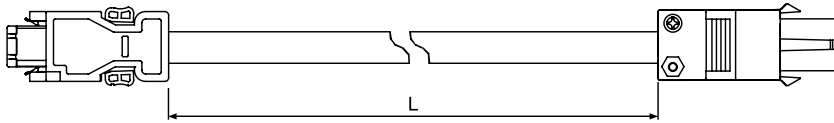


ACS3-CNEN2C00
(for F100 ~ F180)
Mil-Spec: CMV1-AP10S



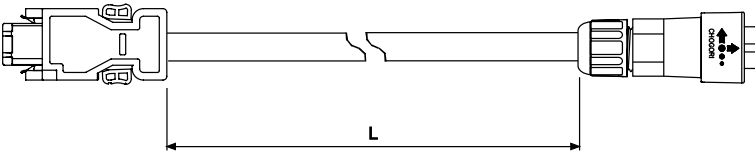
Encoder Cables (Incremental Type)

ACS3-CAEN1003, ACS3-CAEN1005, ACS3-CAEN1010, ACS3-CAEN1020,
ACS3-CAEF1003, ACS3-CAEF1005, ACS3-CAEF1010, ACS3-CAEF1020
(for F80 and below)



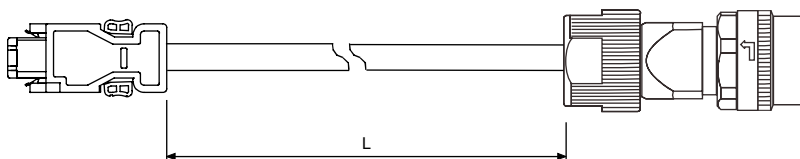
Cable	Part No.	L	
		mm	inch
Standard	ACS3-CAEN1003	3000 ± 50	118 ± 2
	ACS3-CAEN1005	5000 ± 50	197 ± 2
	ACS3-CAEN1010	10000 ± 100	394 ± 4
	ACS3-CAEN1020	20000 ± 100	788 ± 4
Torsion-Resistant	ACS3-CAEF1003	3000 ± 50	118 ± 2
	ACS3-CAEF1005	5000 ± 50	197 ± 2
	ACS3-CAEF1010	10000 ± 100	394 ± 4
	ACS3-CAEF1020	20000 ± 100	788 ± 4

ACS3-CAEN2A03, ACS3-CAEN2A05, ACS3-CAEN2A10, ACS3-CAEN2A20,
ACS3-CAEF2A03, ACS3-CAEF2A05, ACS3-CAEF2A10, ACS3-CAEF2A20
(for F80 and below with IP67 waterproof connector)



Cable	Part No.	L	
		mm	inch
Standard	ACS3-CAEN2A03	3000 ± 50	118 ± 2
	ACS3-CAEN2A05	5000 ± 50	197 ± 2
	ACS3-CAEN2A10	10000 ± 100	394 ± 4
	ACS3-CAEN2A20	20000 ± 100	788 ± 4
Torsion-Resistant	ACS3-CAEF2A03	3000 ± 50	118 ± 2
	ACS3-CAEF2A05	5000 ± 50	197 ± 2
	ACS3-CAEF2A10	10000 ± 100	394 ± 4
	ACS3-CAEF2A20	20000 ± 100	788 ± 4

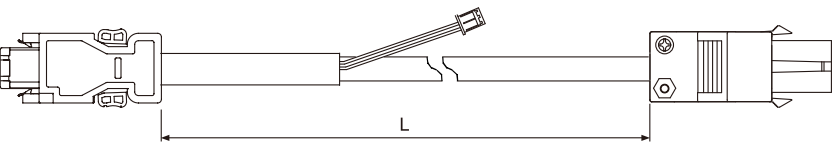
ACS3-CAEN2703, ACS3-CAEN2705, ACS3-CAEN2710, ACS3-CAEN2720,
ACS3-CAEF2703, ACS3-CAEF2705, ACS3-CAEF2710, ACS3-CAEF2720
(for F100 - F180)



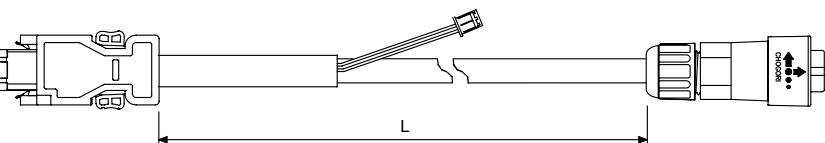
Cable	Part No.	L	
		mm	inch
Standard	ACS3-CAEN2703	3000 ± 50	118 ± 2
	ACS3-CAEN2705	5000 ± 50	197 ± 2
	ACS3-CAEN2710	10000 ± 100	394 ± 4
	ACS3-CAEN2720	20000 ± 100	788 ± 4
Torsion-Resistant	ACS3-CAEF2703	3000 ± 50	118 ± 2
	ACS3-CAEF2705	5000 ± 50	197 ± 2
	ACS3-CAEF2710	10000 ± 100	394 ± 4
	ACS3-CAEF2720	20000 ± 100	788 ± 4

Encoder Cables (Absolute Type)

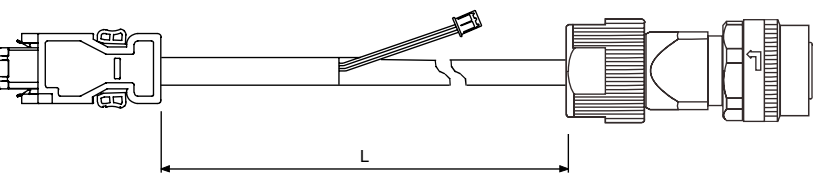
ACS3-CAEA1003, ACS3-CAEA1005, ACS3-CAEA1010, ACS3-CAEA1020,
ACS3-CAEB1003, ACS3-CAEB1005, ACS3-CAEB1010, ACS3-CAEB1020
(for F80 and below)



ACS3-CAEA2A03, ACS3-CAEA2A05, ACS3-CAEA2A10, ACS3-CAEA2A20,
ACS3-CAEB2A03, ACS3-CAEB2A05, ACS3-CAEB2A10, ACS3-CAEB2A20
(for F80 and below with IP67 waterproof connector)

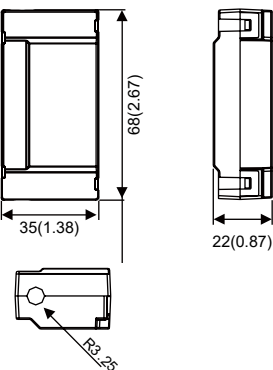


ACS3-CAEA2703, ACS3-CAEA2705, ACS3-CAEA2710, ACS3-CAEA2720,
ACS3-CAEB2703, ACS3-CAEB2705, ACS3-CAEB2710, ACS3-CAEB2720
(for F100 ~ F180)

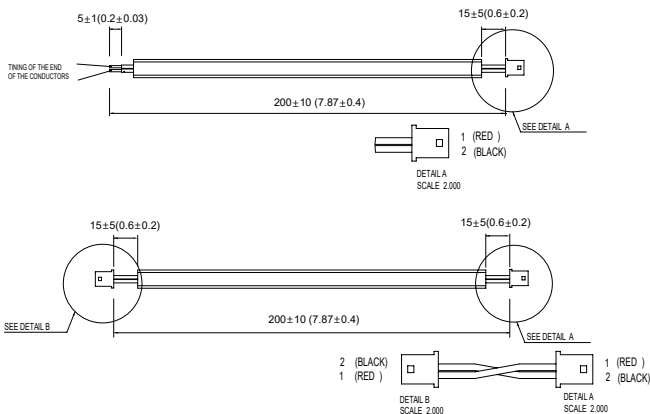
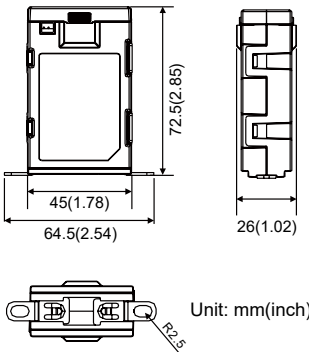


Absolute Battery Box

Single Battery Box
ASD-MDBT0100



Double Battery Box
ASD-MDBT0200



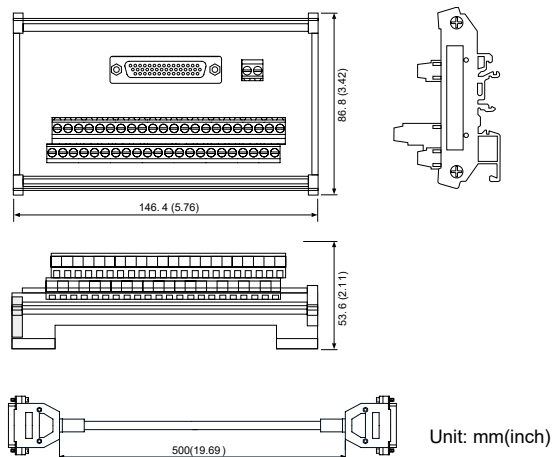
Note: Contact Delta Global Service team if ordering battery box cord only. ASD-MDBT0200

Ordering Information

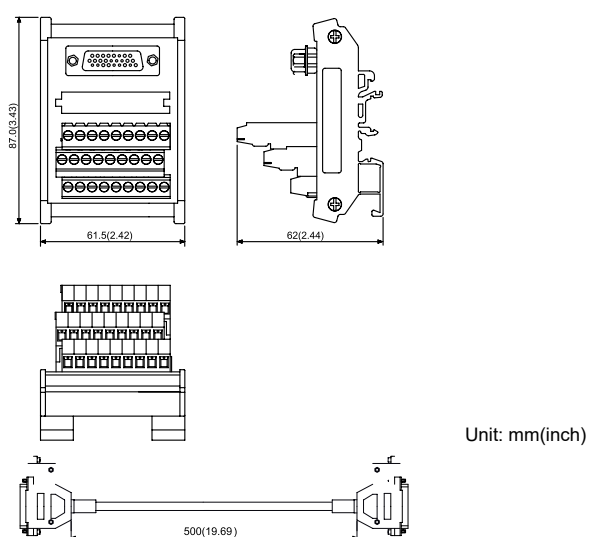
Accessories

Terminal Block Module

ACS3-MDTB4400 (for B3-L)

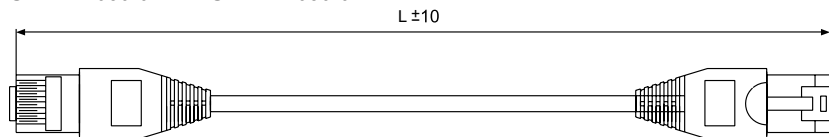


ACS3-MDTD2600 (for B3-M, F, and E)



CN3 CANopen Communication Cable

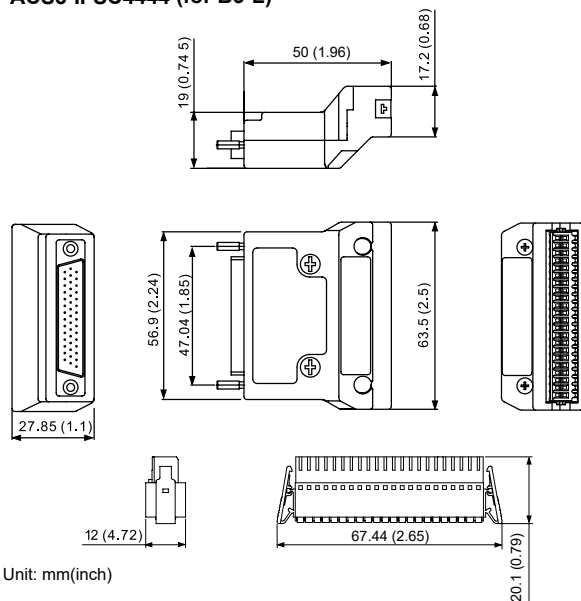
UC-CMC030-01A 、 UC-CMC050-01A



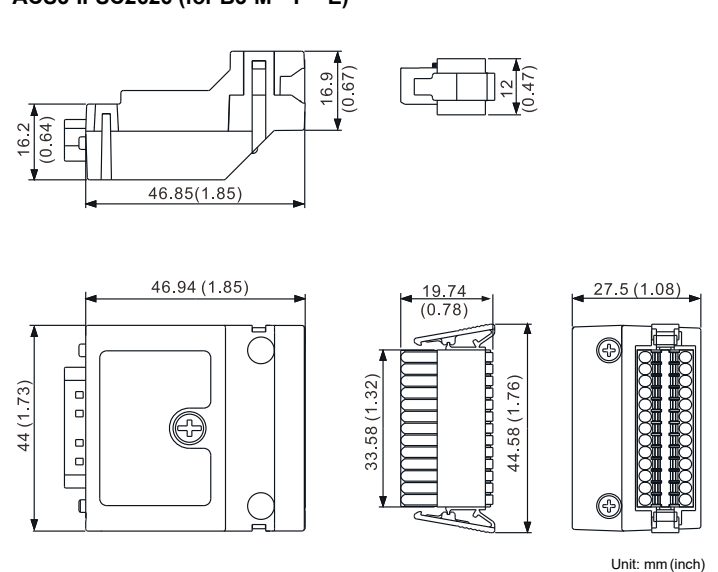
Item	Part No.	L	
		mm	inch
1	UC-CMC030-01A	3000 ± 10	11 ± 0.4
2	UC-CMC050-01A	5000 ± 10	19 ± 0.4

CN1 Connectors

ACS3-IFSC4444 (for B3-L)

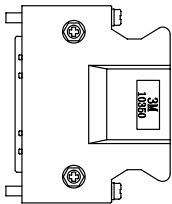


ACS3-IFSC2626 (for B3-M 、 F 、 E)

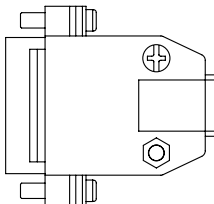


CN1 Connectors

ACS3-CNTB0400 (for B3-L)

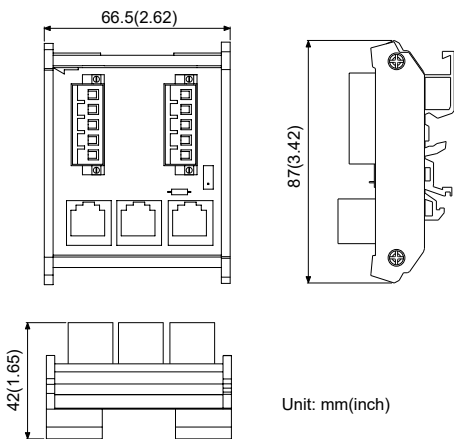


ACS3-CNTB0500 (for B3-M, F, and E)



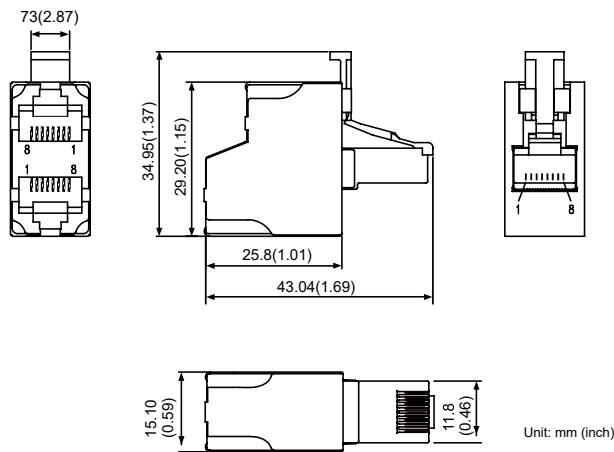
CN3 CANopen Distribution Box

TAP-CN03



CN3 RS-485 Tap

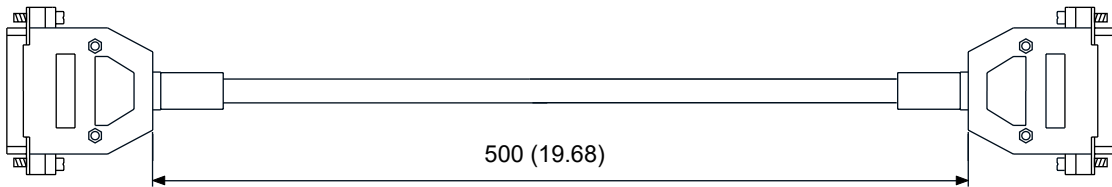
ACS3-CNADC3RC



B3/B2 Conversion Cables

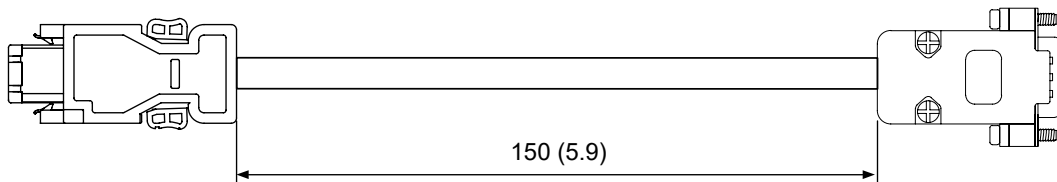
B3/B2 CN1 conversion cable (for B3-L)

ACS3-CABDC1



B3/B2 CN2 conversion cable

ACS3-CABDC2



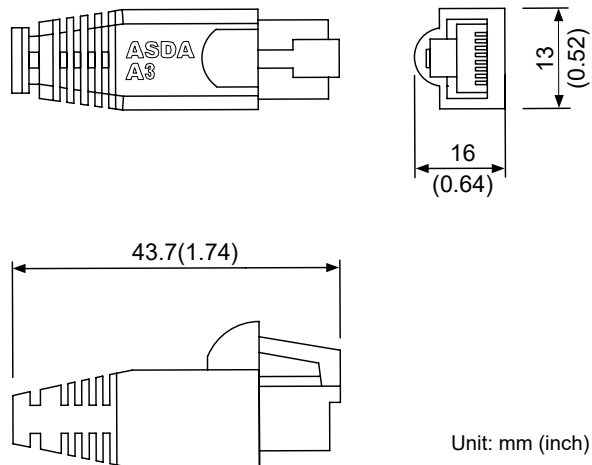
Unit: mm (inch)

Ordering Information

Accessories

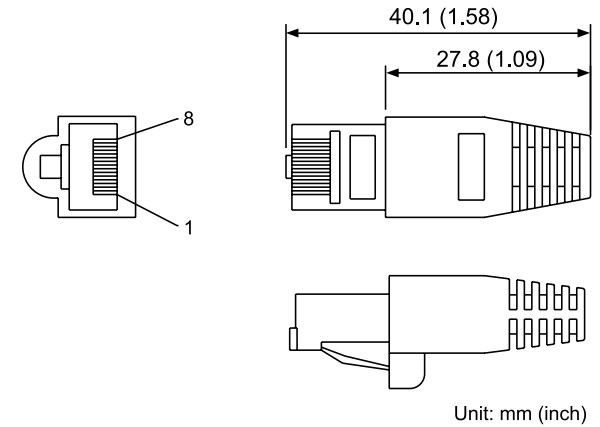
CN3 RS-485/CANopen Terminal Resistor

ACS3-CNADC3TR



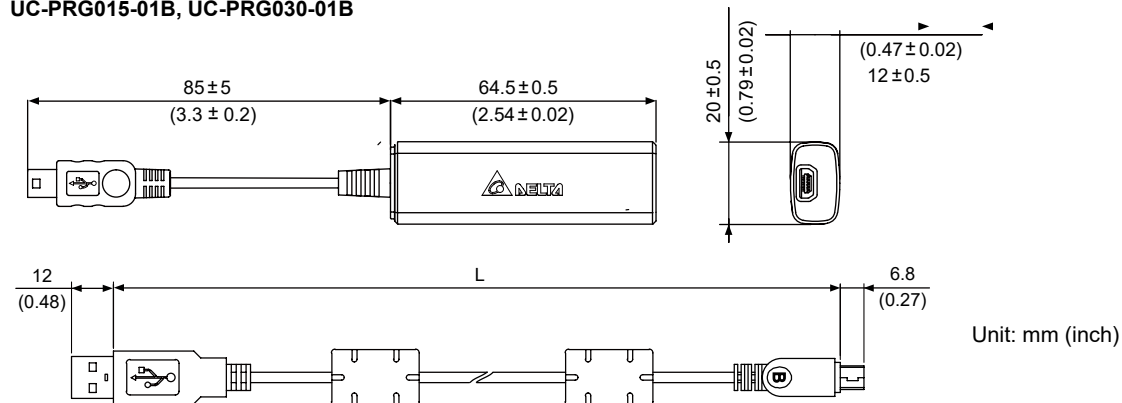
CN6 DMCNET Terminal Resistor

ASD-TR-DM0008



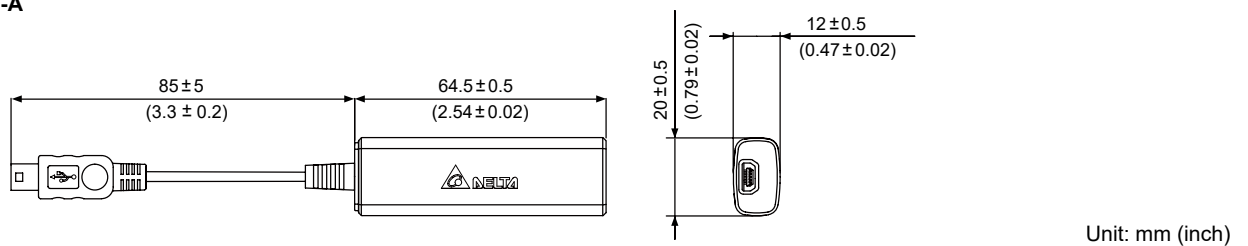
CN4 Mini USB Communication Module

UC-PRG015-01B, UC-PRG030-01B



Item	Part No.	L	
		mm	inch
1	UC-PRG015-01B	1500 ± 10	59 ± 4
2	UC-PRG030-01B	3000 ± 10	118 ± 4

UC-ADP01-A

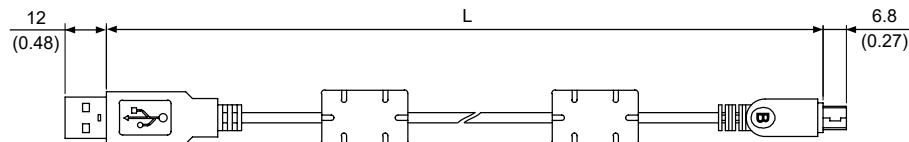


Ordering Information

Accessories

CN4 Mini USB Communication Module

UC-PRG015-01S, UC-PRG030-01A



Unit: mm (inch)

Item	Part No.	L	
		mm	inch
1	UC-PRG015-01A	1500 ± 10	59 ± 4
2	UC-PRG030-01A	3000 ± 10	118 ± 4

Servo Drive Standards

Standard	ASD-B3 servo drive conforms to the highest standards and recommendations for electrical industrial control equipment (IEC, EN)
EMC Immunity	EN61000-4-6 Level 3
	EN61000-4-3 Level 3
	EN61000-4-2 Level 2 and 3
	EN61000-4-4 Level 3
	EN61000-4-8 Level 4
	EN61000-4-5 Level 3
Conducted and Radiated EMC Interference of Servo Drive	EN61800-3 Level 3 · with external EMC filter
CE Marking	B3 series servo drives have the CE marking and conform to the European Union Low Voltage Directive (2014/35/EU) and EMC Directive (2014/30/EU)
Product Certification	UL (USA); cUL (CA)
Protection Level	IEC/EN50178, IP20
Vibration Resistance Protection	20 Hz and below (1G), 20 - 50 Hz (0.6G), conforms to IEC/EN50178
Shock Resistance Protection	15 gn 11 ms; conforms to IEC/EN600028-2-27
Pollution Degree	Degree 2 conforms to IEC/EN61800-5-1

Global Sites

ASIA (Taiwan)



Taoyuan Technology Center (Green Building)



Taoyuan Plant 1



Tainan Plant (Diamond-rated Green Building)

ASIA (China)



Wujiang Plant 3



Shanghai Office



ASIA (Japan)



Tokyo Office



ASIA (India)



Rudrapur Plant
(Green Building)

EUROPE



Amsterdam, the Netherlands

AMERICA



Research Triangle Park, U.S.A.

▲ 6 Factories ■ 117 Branch Offices ● 13 R&D Centers ■ 915 Distributors

