



Automation for a Changing World

Extended Motion Controller DXMC Series



Delta Extended Motion Controller DXMC Series

The DXMC Series is an advanced synchronous multi-axis motion controller with max. 32 real axes and 64 virtual axes control. It provides tension control, rotary cut, flying shear and E-CAM function modules with user-friendly program editing for a wide range of industry applications, including packaging machines, printing machines, winding machines and industrial robots. In addition, the DXMC Series features optional CODESYS SoftPLC or KW SoftPLC to provide a flexible and customized motion control platform for machine upgrades and smart equipment.

To meet various user requirements, the DXMC Series includes Standard Type DXMC-S and Panel Type DXMC-P:

Standard Type DXMC-S supports various communications to connect the host controllers and field devices with high immediacy, speed, precision and flexibility:

- EtherNET: for connection with computers or host controllers
- EtherCAT: for communication with Delta Servo Drive ASDA-A2/A3-E Series
- CANopen: offers extendable I/O modules
- Built-in 16 DI / DO terminals
- SSI encoder signal and 2 sets of differential encoder signals
- Built-in 1 RS-485 communication port

Panel Type DXMC-P features high brightness and contrast built-in LED monitor as operation interface. It integrates motion control functions and supports various communications:

- EtherNET: for connection with computers or host controllers
- EtherCAT: for high-speed communication with Delta Servo Drive ASDA-A2/A3-E Series
- RS-232 / RS-422 / RS-485 communication ports: for connection with peripheral devices



Standard Type DXMC-S

Synchronous multi-axis motion control, built-in 32 I/O terminals, EtherCAT bus, simple wiring



Panel Type DXMC-P

Built-in 7" & 10" LED monitor for display and operation



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Extended Standard Motion Controller

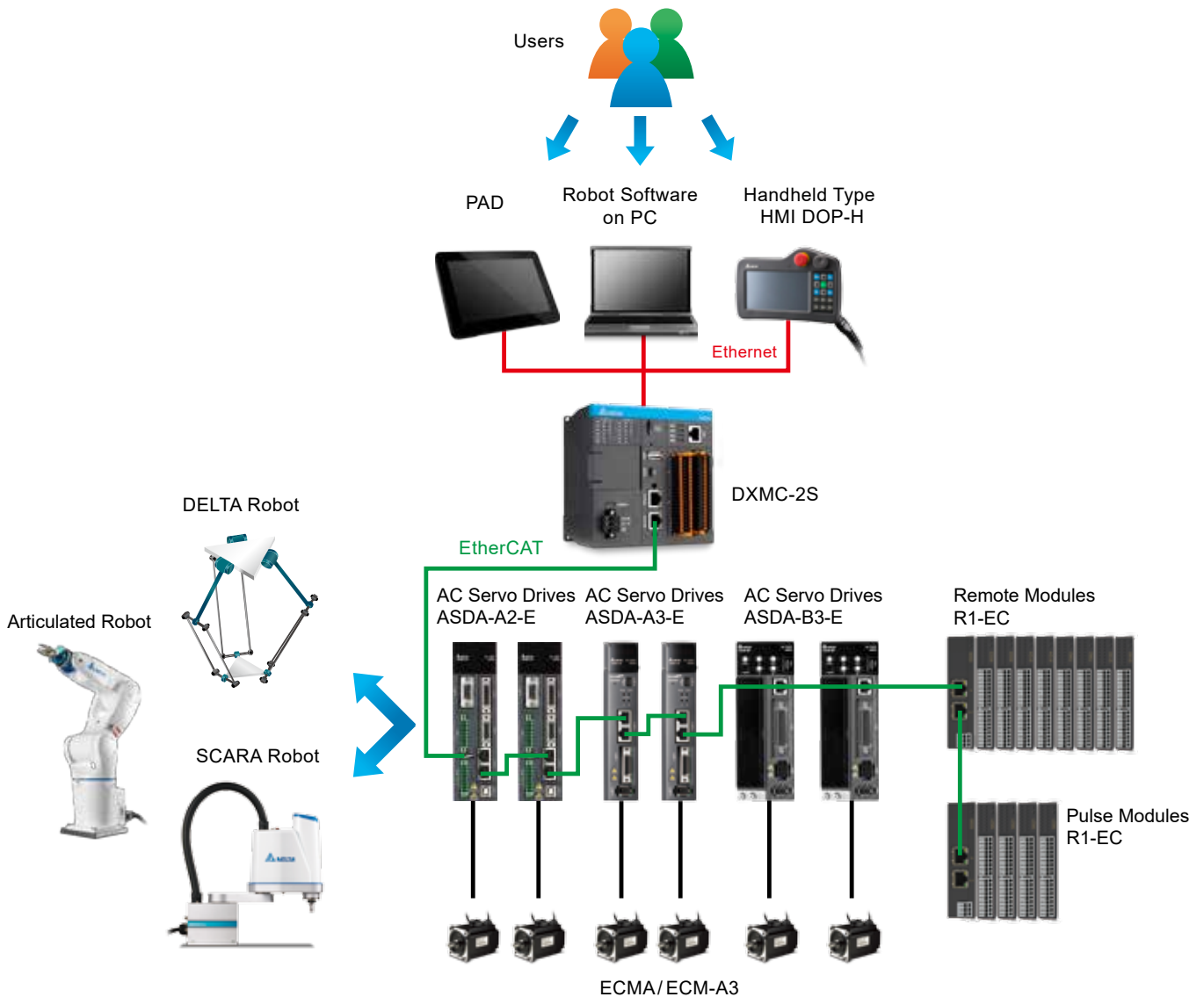
Features

DXMC-2S

- Max. 32 servo axes control
- Supports EtherCAT and Modbus TCP communications
- Execution cycle: 125 μ s, 250 μ s, 500 μ s, 1ms
- Built-in 16 DI/DO terminals and RS-485 serial port
- 1CH SSI Absolute encoder and 2 CH pulse encoder
- Built-in CODESYS SoftPLC & motion control programming



System Structure

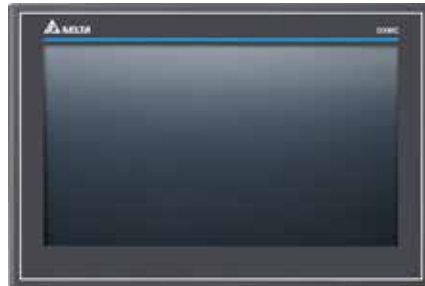


Extended Standard Motion Controller

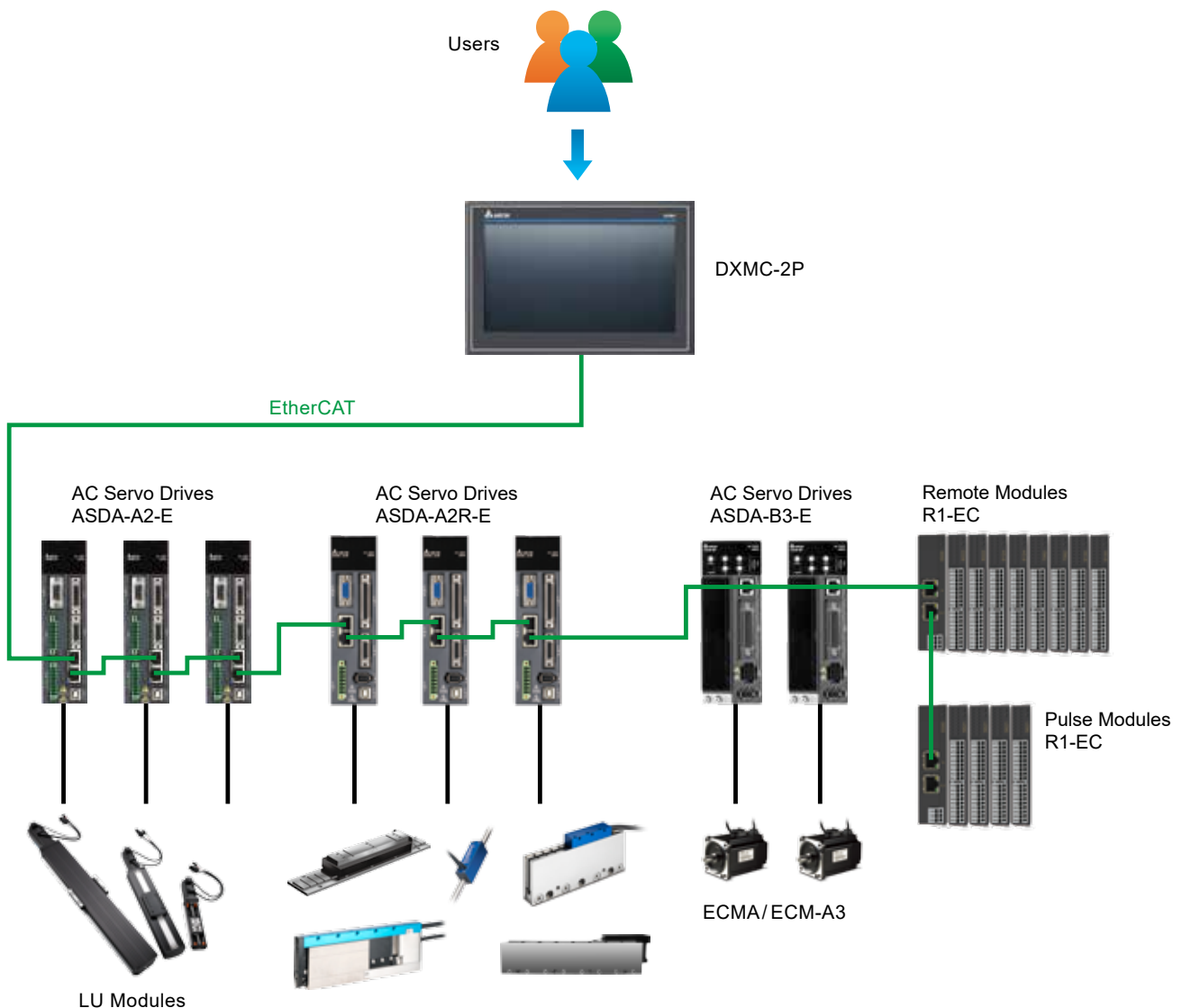
Features

DXMC-2P

- Motion controller integrated with HMI
- Display size: 7" and 10"
- Max. 8 servo axes control
- Supports EtherCAT and Modbus TCP communications
- Built-in CODESYS SoftPLC & motion control programming



System Structure

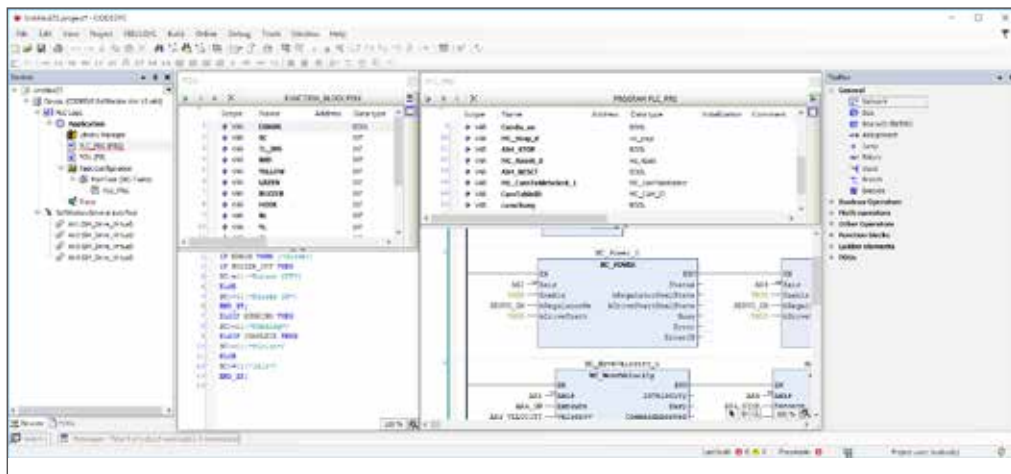


Software: Motion Control Platform Based on CODESYS



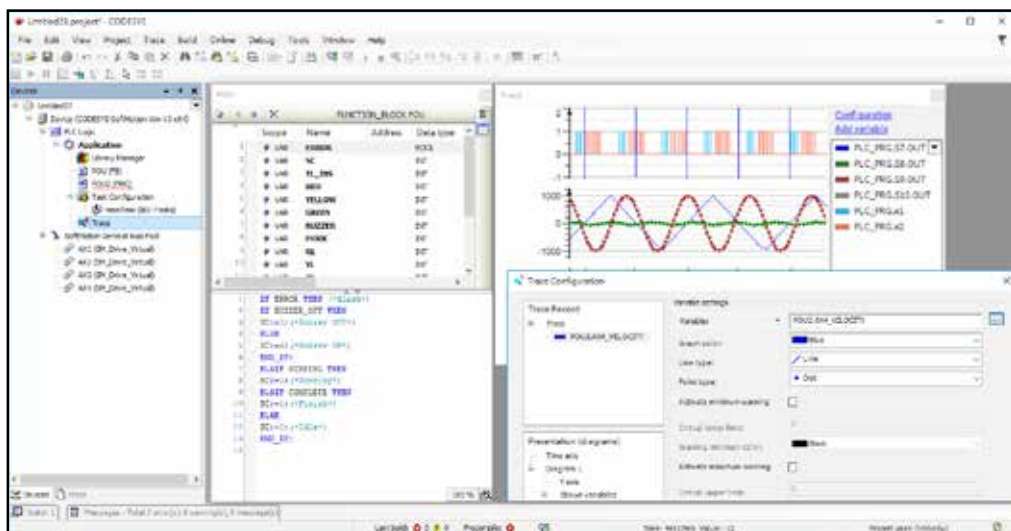
Standard IEC 61131-3 Programming

- Instruction List (IL)
- Structured Text (ST)
- Ladder Programming (LD)
- Function Chart Programming (FBD)
- Sequential Function Chart (SFC)



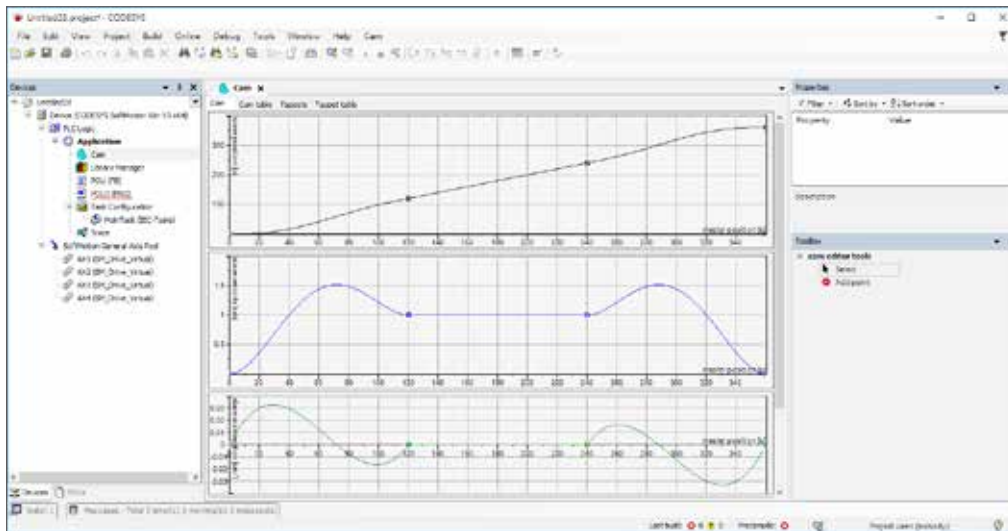
Tasks and Debugger

- Display of application data at runtime in simulation mode on SoftPLC and discrete controllers
- Reading, writing, and forced setting of variable values, directly in the respective editor
- Monitoring of specific values in watchlists
- Execution of code in single step or single cycle



Motion Control Software Based on CODESYS - SoftMotion

- Supports single-axis and coordinated multi-axis traversing motion (e.g. master/slave functions and cams)
- Library available to use in POU's and programming of motion functions
- Motion control function is connected with other functions based on CODESYS
- Graphical planning of CAM functions with integrated CAM editor
- Numerous POU-specific visualization templates for easy commissioning with the development system based on CODESYS
- Additional visualization templates for online editing of E-CAMs in runtime mode with HMI, such as TargetVisu and WebVisu



Software: Motion Control Platform Based on CODESYS



Features

- Creates structured and efficient applications from configuration to commissioning with one tool
- Optional object-oriented programming according to IEC 61131-3 (3rd edition), also blended with functional programming within the project
- Description document directly integrated into the tried and tested library for easy development
- Multi-platform development and application reusability with exchangeable target system descriptions for all devices compatible with CODESYS
- Versatile extensibility with the modular design and available add-ons
- Clear user interface and customizable windows

Benefits

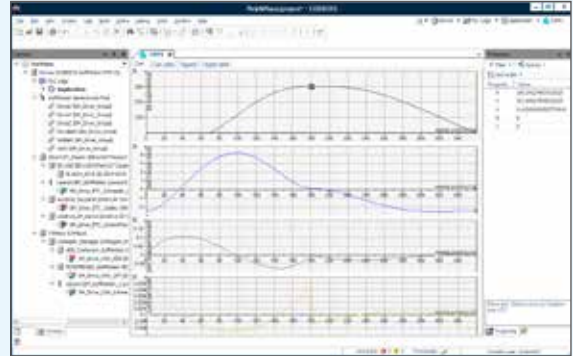
Standard PLCopen

- Single or multi-axis movements with PLCopen motion POU's



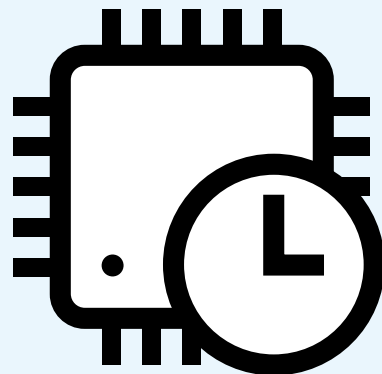
E-CAM

- Provides E-CAM synchronous control function
- Graphical interface for programming E-CAM curves
- Each E-CAM chart supports 65,535 points



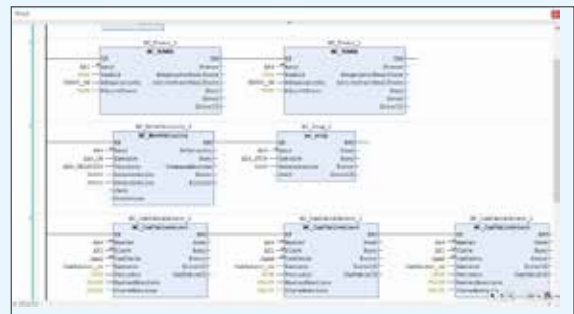
Real-Time System

- 1ms synchronous cycle controls a total of 64 real and virtual axes



Multi-Axis Function Block

- Motion control using IEC 61131-3 function blocks



Applications

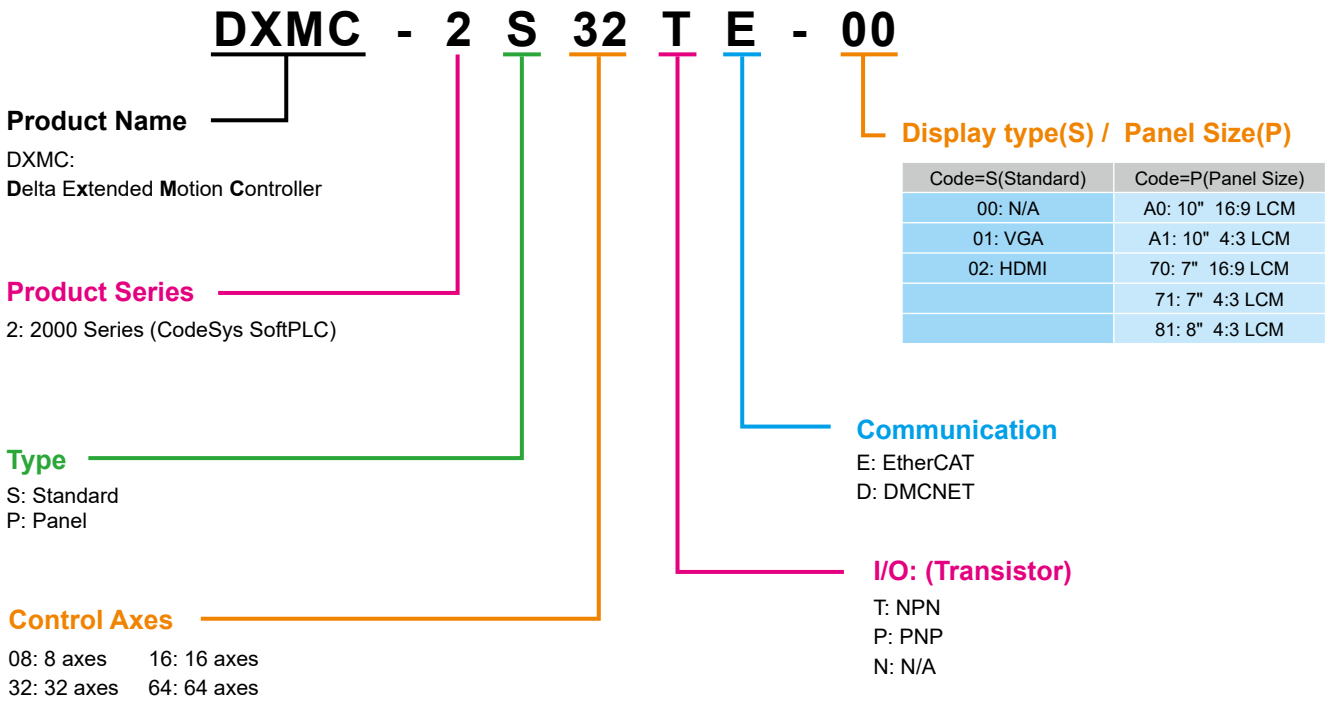
- Packaging machines, winding machines and printing machines



Ordering Information

Model Name Explanation

DXMC Series Extended Motion Controller



DXMC-2S32TE-00



DXMC-2P08NE-A0

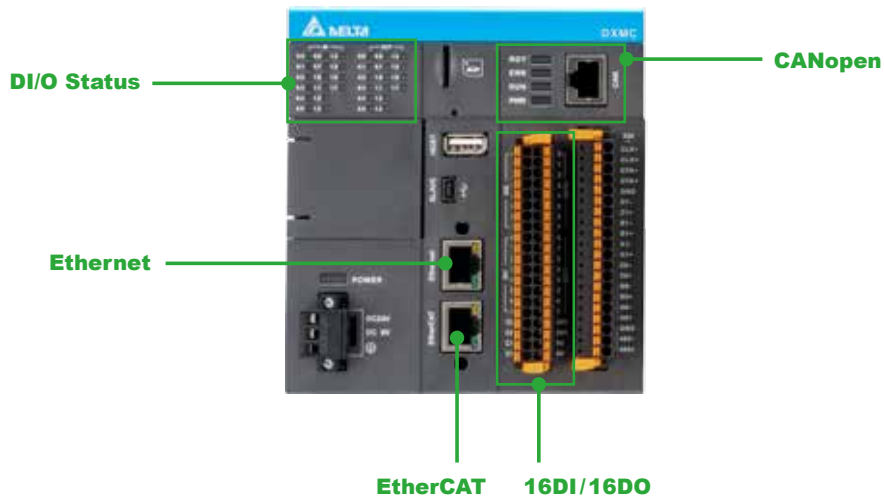


DXMC-2P08NE-70

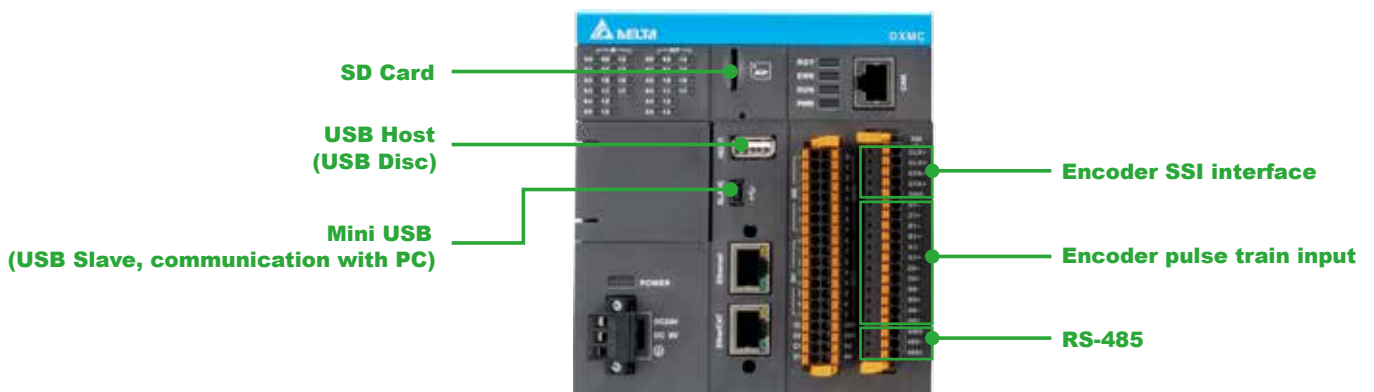


Product Information - Standard Type DXMC-S

- Max. 32 axes control, execution cycle 500 μ s
- EtherCAT bus: for communication with servo drives (high speed)
- CANOpen bus: for communication with I/O modules or peripheral devices (low speed)
- EthernetIP interface: for communication with host controllers or multiple DXMC-Ss
- Built-in 16 DI/DO (All 16 DIs are high speed)



- Built-in two channels of encoder pulse train input: A/B/Z \pm differential signal
- Built-in one channel of communication type encoder input: SSI
- Built-in SD extension card slot
- Built-in USB interface (mini USB and USB Host)
- Built-in RS-485 communication port

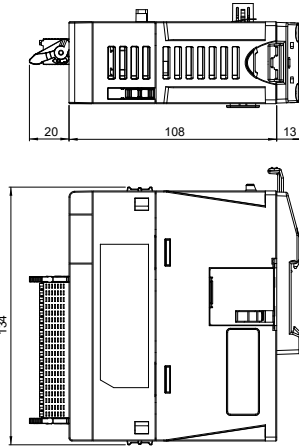
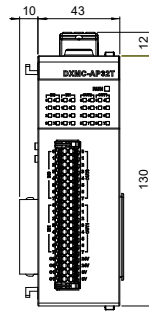
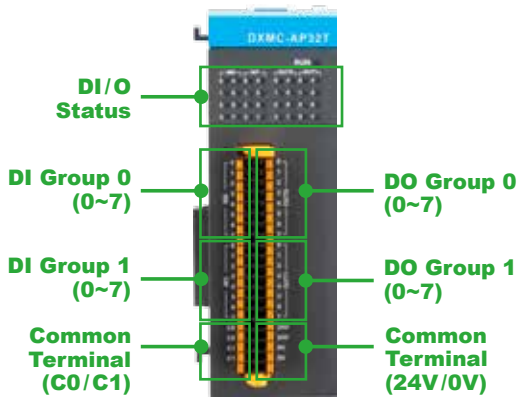


I/O Modules

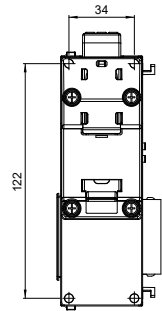
DI/DO Module

Developing

AP32T



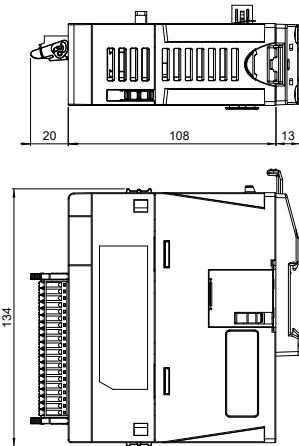
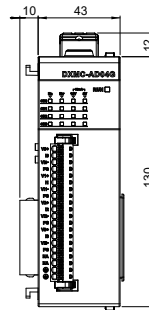
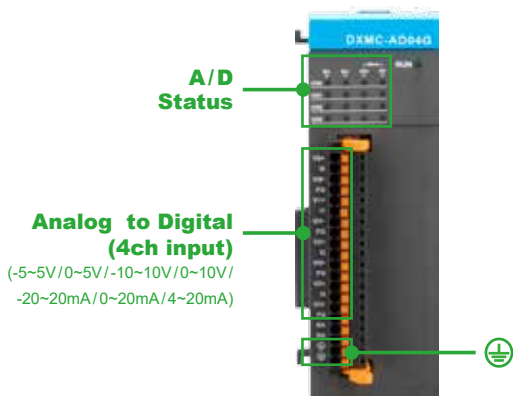
Unit: mm



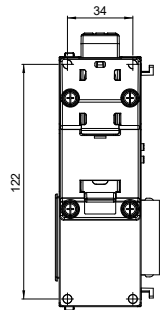
A/D Module

Developing

AD04G



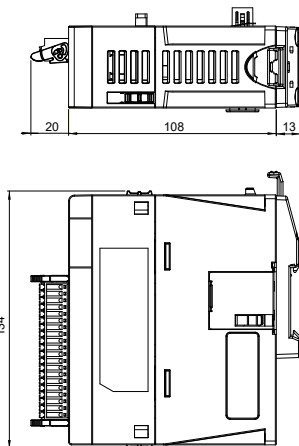
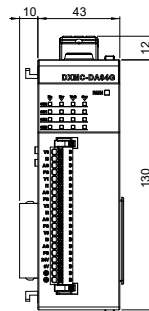
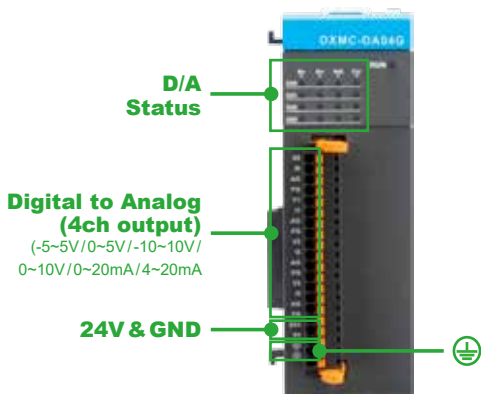
Unit: mm



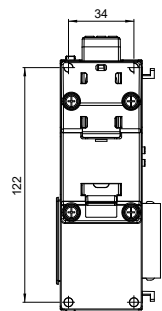
D/A Module

Developing

DA04G



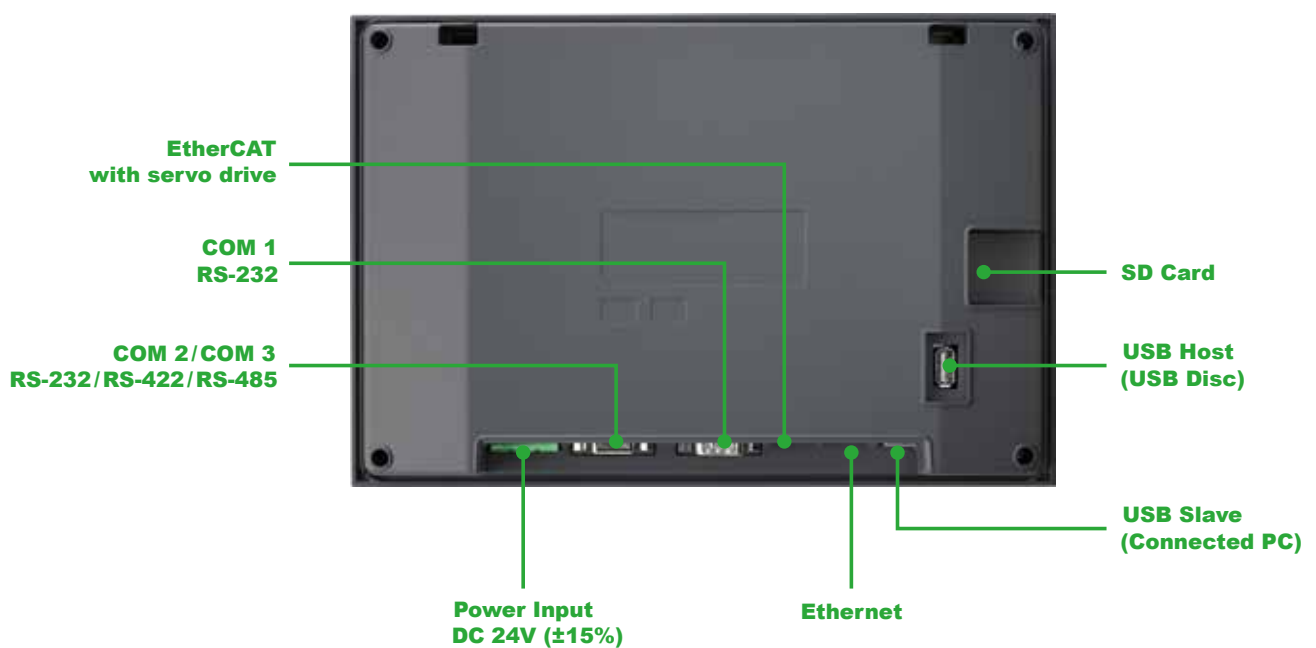
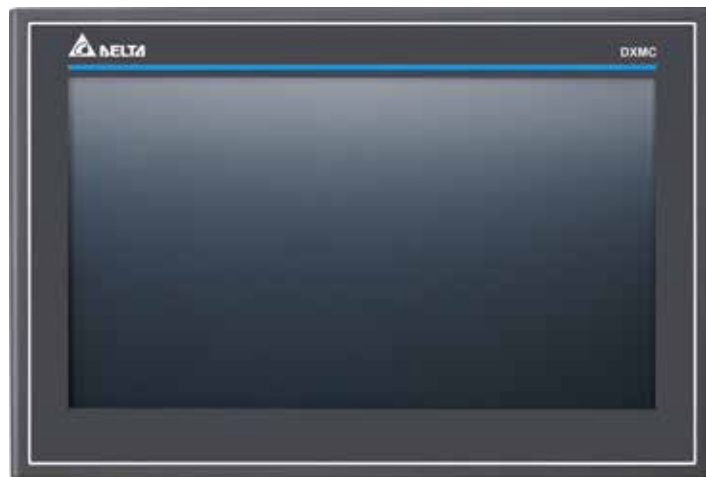
Unit: mm




Product Information - Standard Type DXMC-P

Product Parts

- 7" / 10" 65,536 colors TFT LCD, 1,024 x 600 pixels
- EtherCAT bus: for communication with servo drives (high speed)
- EthernetIP interface: for communication with host controllers or multiple DXMCs
- Built-in SD extension card slot
- Built-in USB interface (mini USB and USB host)
- Built-in RS-232 / RS-422 / RS-485 communication ports



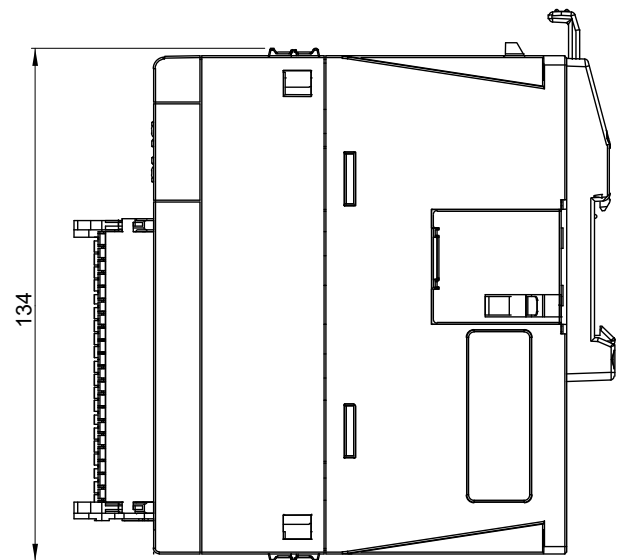
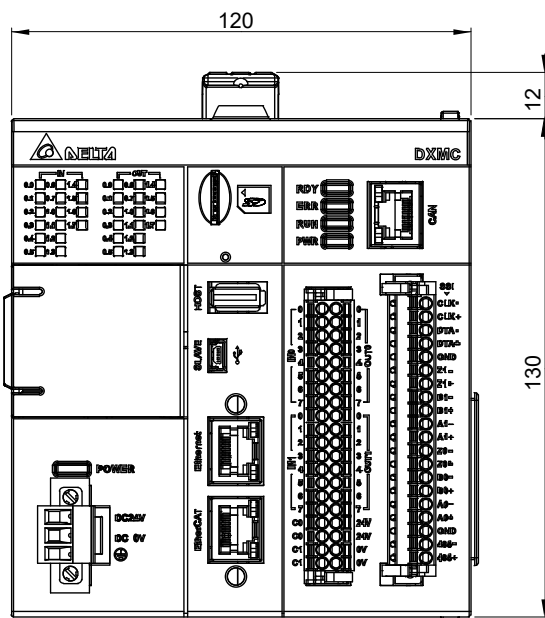
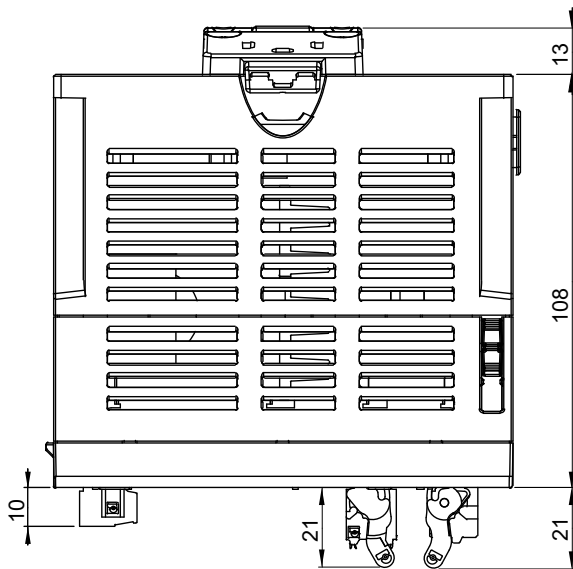
Specifications

Model		DXMC-2S32□E-00	DXMC-2P08□E-A0	DXMC-2HP08□E-70
Processor System	CPU	ARM Cortex-A17(1.8G Hz) Quad Core	ARM Cortex-A8 (800 MHz)	ARM Cortex-A8 (800MHz)
Monitor	Display Type	N/A	10.1" TFT LCD	7" TFT LCD
	Colors		65,536	65,536
	Resolution (pixels)		1,024*600	800*480
	Backlight		LED Back Light	LED Back Light
	Backlight Luminance (cd/m2)		450	450
	Backlight Life (Hr)		30,000	30,000
Input / Output	Standard I/O	16 DI / 16 DO	Remote I/O	Remote I/O
	Transistor	PNP, NPN		
Pulse input	Encoder	A0± / B0± / Z0±; A1± / B1± / Z1±		
Hardware expansion	Maximum Number Module Of Expansion	4	Remote I/O	Remote I/O
	DI/DO Module	16 IN / 16 OUT		
	AD/DA Module	4 AD / 4 DA		
Storage	USB Host	1	1	1
	SD	1	1	N/A
Power	Input Voltage	24V _{DC} , ± 10 %		
	Rated Power	10 W	11 W	8.4 W
	Max. curr. Consumption	500 mA	460 mA	450 mA
Memory Backup Battery		3V lithium battery CR2032 * 1		
Dimensions (W) * (H) * (D) mm / Weight		120 x 130 x 108 / 780g	270 x 180.9 x 47.75 / 1,100g	196 x 136 x 39 / 560g
Cooling Method		Natural		
Axes of Control		Max. 32 Axes	Max. 8 Axes	
Communication	Network Interface	Ethernet * 1		
	Motion Control (High Speed)	EtherCAT * 1		
	Motion Control (Low Speed)	CANopen * 1	N/A	N/A
	SSI Interface	1	N/A	N/A
	RS-485	1		
	USB Slave	1 (Communication with PC)		
Environment	Operating Temperature	0° C ~ 50° C		
	Storage Temperature	DXMC-S: -25° C ~ 70° C DXMC-P: -20° C ~ 65° C		
	Humidity	10 ~ 90%RH (non-condensing)		
	Vibration	IEC61131-2 compliant 5 Hz ~ 8.3 Hz 3.5 mm, 8.3 Hz ~ 150 Hz 1G		
	Shock	75G IEC 60068-2-27, half sine, 11ms duration		
	Protection Rating	DXMC-S: IP20 DXMC-P: IP65 / NEMA4 / UL Type 4X (indoor use only)		
	Certification			

Dimensions

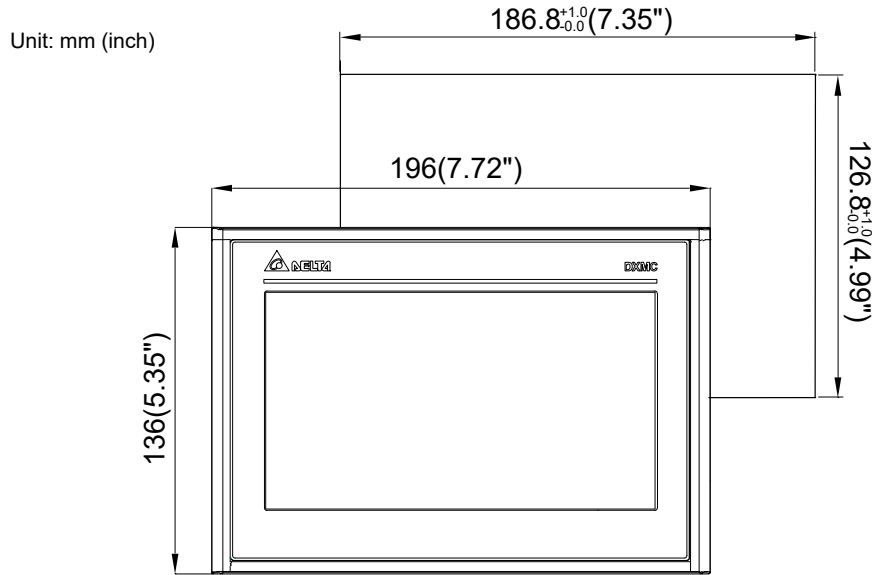
DXMC-2S32TE-00

Unit: mm



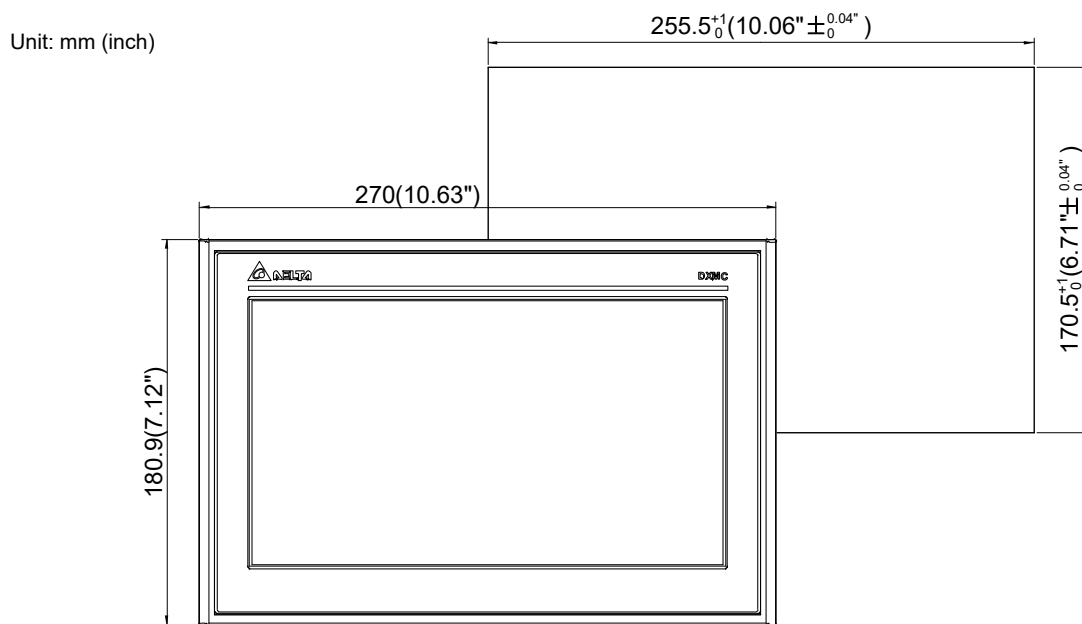
Dimensions

DXMC-2P08NE-70



Dimensions

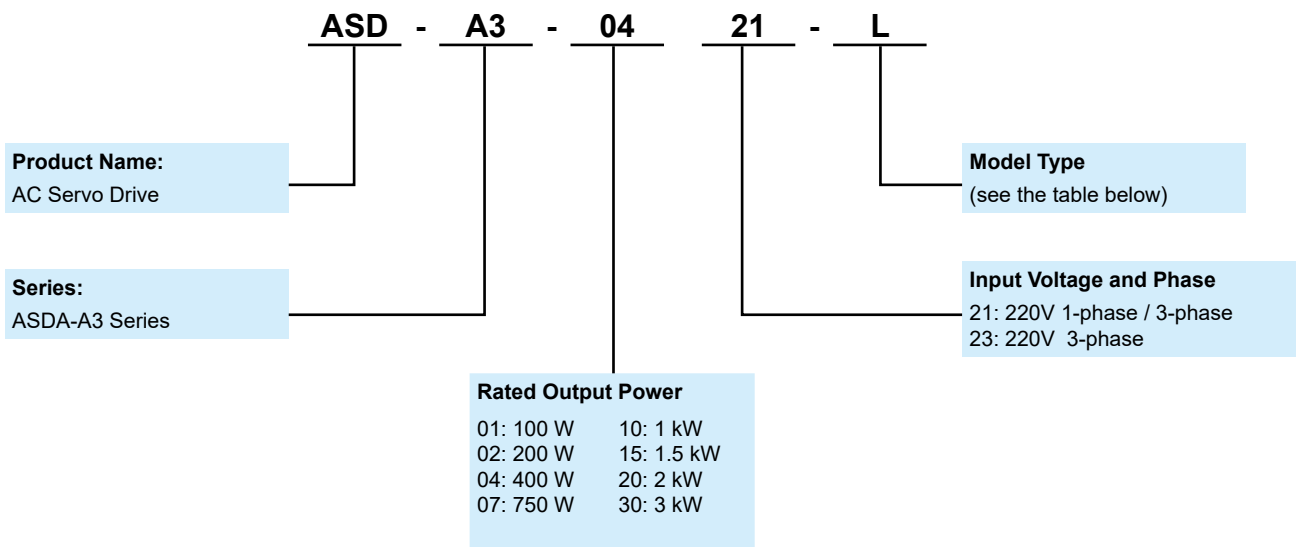
DXMC-2P08NE-A0



Ordering Information

Model Name Explanation



ASDA-A3 Series Servo Drives



Type	PT Mode Pulse Train	PR Mode	RS-485	CANopen	DMCNET	EtherCAT	Full-closed Loop Control	Analog Voltage Control	E-CAM	STO
L	○	○	○	X	X	X	○	○	○	X
M	○	○	○	○	X	X	○	○	○	○
F	X	○	X	X	○	X	○	X	○	X
E*	X	○	X	X	X	○	○	X	○	○

Note: Models with a * mark are the ones to be launched.

Servo Drive Specifications

ASDA-A3		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	Single-phase / three-phase 220 VAC						Three-phase 220 VAC		
	Permissible Voltage Range	Single-phase / three-phase 200~230 VAC, -15%~10%						Three-phase 200~230 VAC, -15%~10%		
	Input Current (3PH) (Units: Arms)	0.67	1.34	2.67	5.01	6.68	10.02	13.36	20.05	
	Input Current (1PH) (Units: Arms)	1.16	2.31	4.63	8.68	11.57	17.36	-	-	
	Continuous Output Current (Units: Arms)	0.9	1.55	2.65	5.1	7.3	12.6	13.4	19.4	
Instantaneous Maximum Output Current (Units: Arms)		3.54	7.07	10.61	21.21	24.75	35.36	53.03	70.71	
Cooling System		Natural Air Circulation			Fan Cooling					
Drive resolution		24-bit (16777216 p/rev)								
Control of Main Circuit		SVPWM Control								
Tuning Modes		Auto / Manual								
Regenerative Resistor		None			Built-in					
Position Control Mode	Pulse Type (Only for Non-DMCNET mode)		Pulse + Direction, A phase + B + CW pulse							
	Max. Input Pulse Frequency (Only for Non-DMCNET mode)		Pulse + Direction: 4Mpps ; CCW pulse + CW pulse: 4Mpps ; A phase + B phase: Single phase 4Mpps ; Max. 200Kpps (Open collector) pps							
	Command Source		External pulse train (PT mode) (only for Non-DMCNET mode) / Internal parameters (PR mode)							
	Smoothing Strategy		Low-pass and P-curve filter							
	Electronic Gear		Electronic gear N/M multiple N: 1~536870911, M: 1~2147483647 (1/4 < N/M < 262144)							
	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}							
		Resolution	15-bit							
	Input Resistance	Input Resistance	1MΩ							
		Time Constant	25 μs							
	Speed Control Range ^{*1}		1 : 6000							
	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 parameters or analog input (only for Non-DMCNET mode)								
Frequency Response Characteristic		Maximum 3.1kHz								
Speed Accuracy ^{*2}		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	1MΩ							
	Time Constant	Input Resistance	1MΩ							
		Time Constant	25 μs							
	Command Source		External analog signal (only for Non-DMCNET mode) / Internal parameters							
Smoothing Strategy		Low-pass filter								
Speed Limit		Set by parameters or 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 (E-Cam), Forward / Reverse JOG input, Event trigger PR command, Electronic gear ratio (Numerator) selection and Pulse inhibit input * 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.								
	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, 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-485 / CANopen / USB								
Environment	Installation Site		Indoor environment (free of direct sunlight), no corrosive liquid and gas (free of oil mist, flammable gas, or 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 ^{*3,4}								
Certification		IEC/EN 61800-5-1 · UL 508C  								

Note: *1. When it is with the 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: (free run speed - full load speed) / 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.
*4. Use a single-phase three-wire power systems for models of single-phase power

Ordering Information

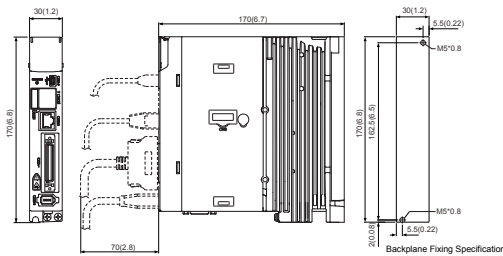
Servo Drive Dimensions

Unit: mm [inch]

Frame A 100W / 200W

Weight

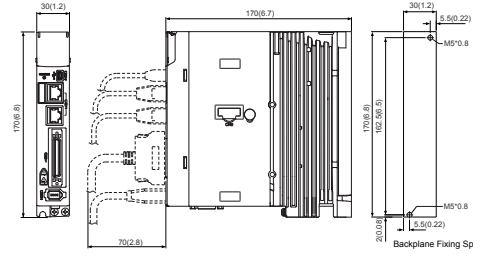
0.84 kg



④ SCREW: M4x0.7
● Mounting screw torque: 14 (kgf-cm)

-L

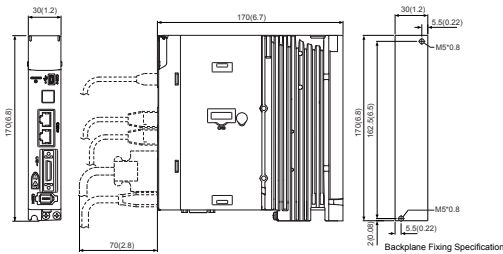
Unit: mm (inch)



④ SCREW: M4x0.7
● Mounting screw torque: 14 (kgf-cm)

-M

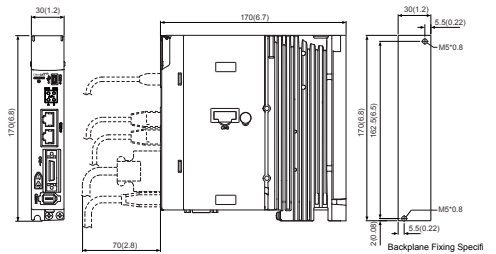
Unit: mm (inch)



④ SCREW: M4x0.7
● Mounting screw torque: 14 (kgf-cm)

-F

Unit: mm (inch)



④ SCREW: M4x0.7
● Mounting screw torque: 14 (kgf-cm)

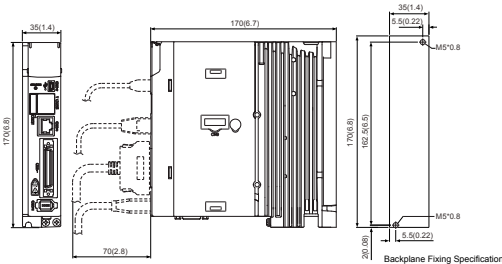
-E

Unit: mm (inch)

Frame B 400W

Weight

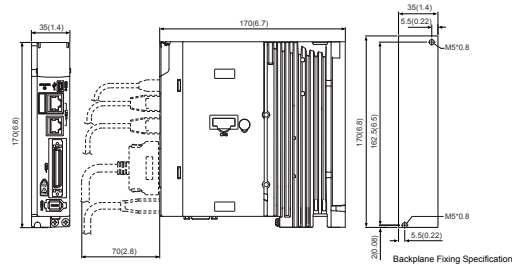
0.92kg



④ SCREW: M4x0.7
● Mounting screw torque: 14 (kgf-cm)

-L

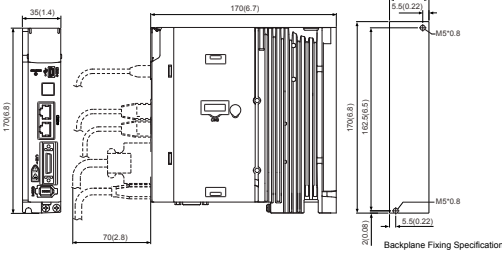
Unit: mm (inch)



④ SCREW: M4x0.7
● Mounting screw torque: 14 (kgf-cm)

-M

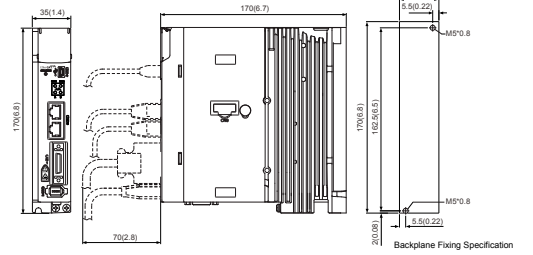
Unit: mm (inch)



④ SCREW: M4x0.7
● Mounting screw torque: 14 (kgf-cm)

-F

Unit: mm (inch)



④ SCREW: M4x0.7
● Mounting screw torque: 14 (kgf-cm)

-E

Unit: mm (inch)

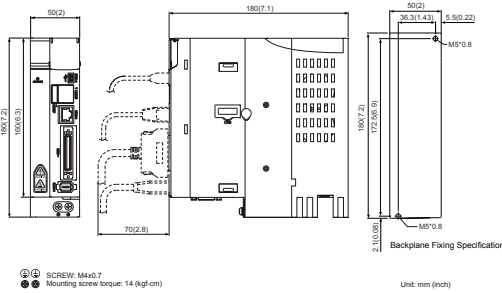
Note:

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.

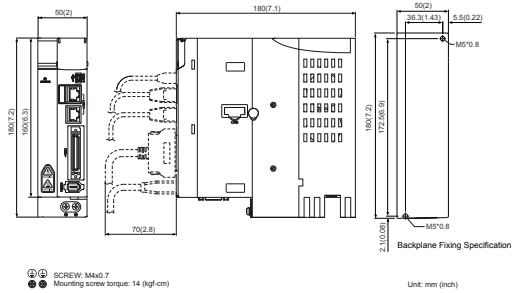
Unit: mm [inch]

Frame C 750W / 1kW / 1.5kW

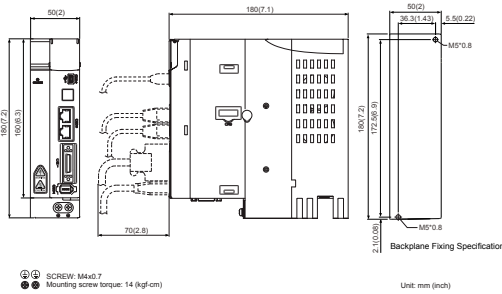
Weight
1.3kg



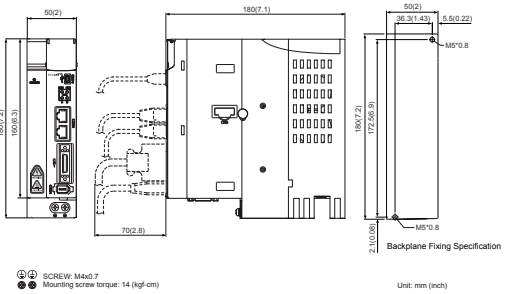
-L



-M



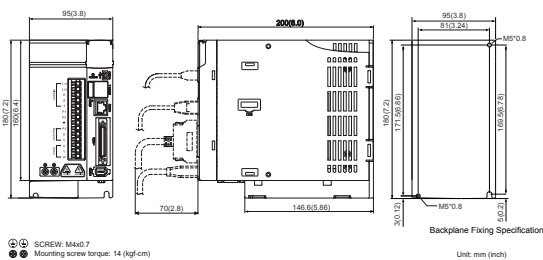
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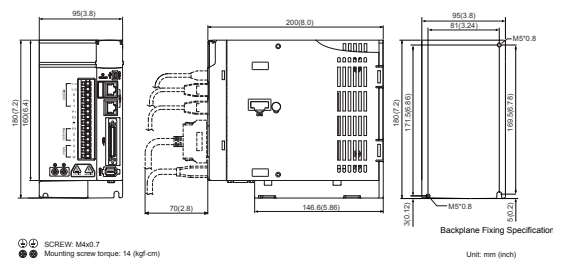
-E

Frame D 2kW / 3kW

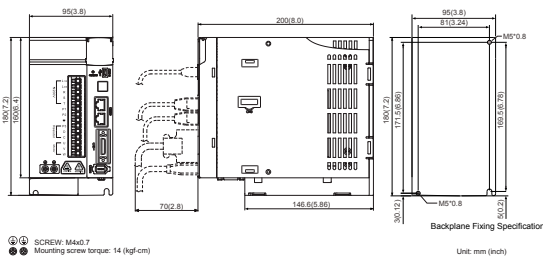
Weight
2.7kg



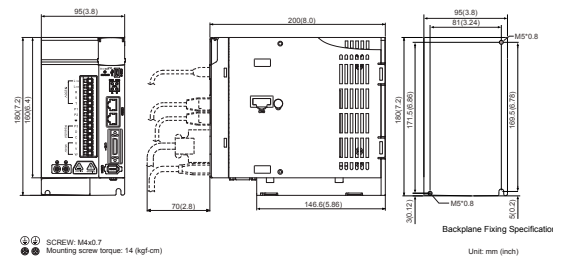
-L



-M



-F



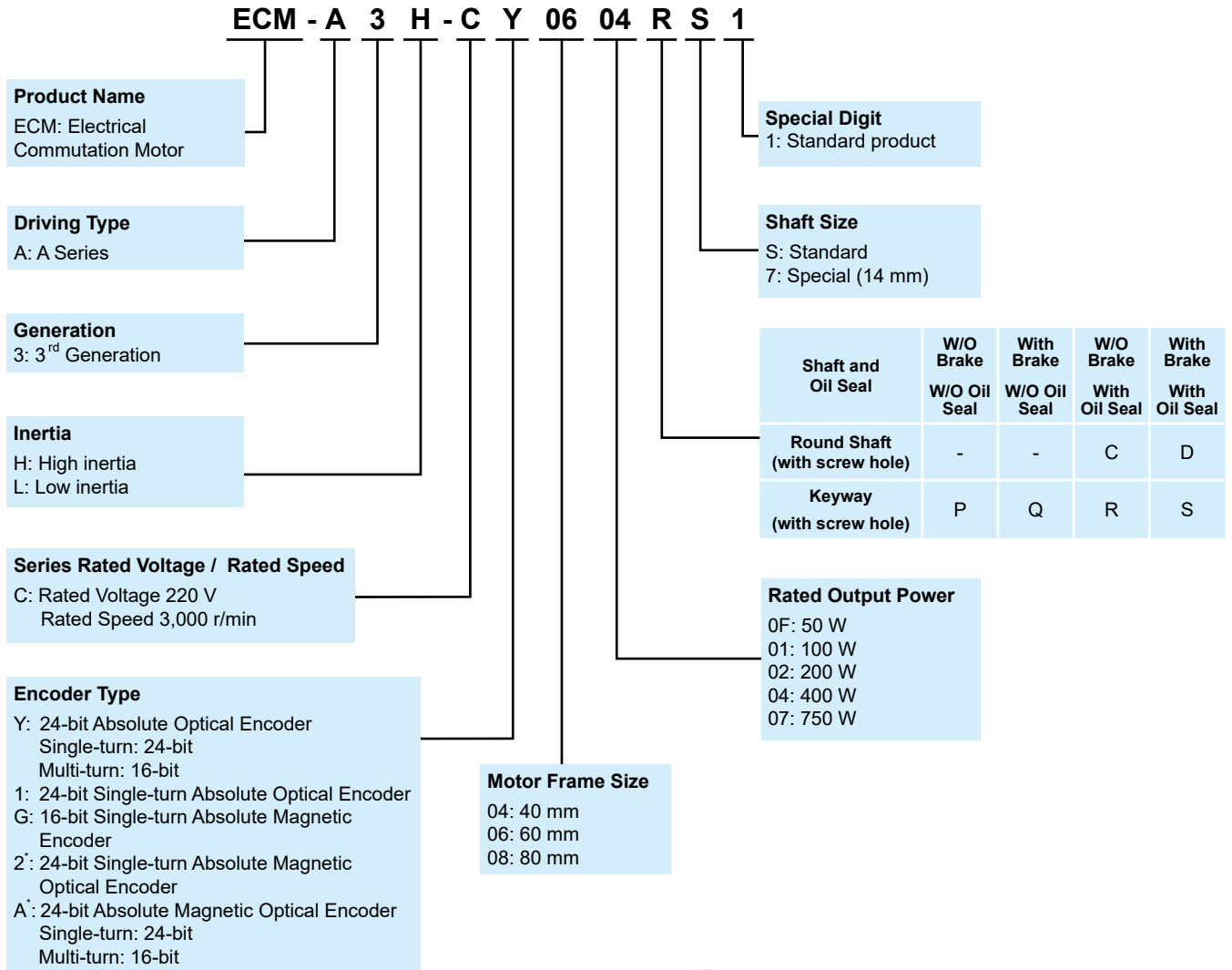
-E

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.

Ordering Information

Model Name Explanation

ECM-A3 Series Servo Motors



*To be launched



Servo Motor Specifications

Low Inertia ECM-A3L Series

ECM-A3L Series	C104		C106		C108	
	0F	01	02	04	04	07
Rated Output Power (kW)	0.05	0.1	0.2	0.4	0.4	0.75
Rated Torque (N-m) ¹	0.159	0.32	0.64	1.27	1.27	2.39
Maximum Torque (N-m)	0.557	1.12	2.24	4.45	4.44	8.36
Rated Speed (r/min)	3000					
Maximum Speed (r/min)	6000					
Rated Current (Arms)	0.66	0.9	1.45	2.65	2.6	5.1
Maximum Current (Arms)	2.82	3.88	6.2	10.1	10.6	20.6
Power Rating (kW/s)	11	25.6	45.5	107.5	45.8	102.2
Rotor Moment of Inertia (x10 ⁻⁴ kg-m ²) (Without brake)	0.0229	0.04	0.09	0.15	0.352	0.559
Mechanical Time Constant (ms)	1.28	0.838	0.64	0.41	0.68	0.44
Torque Constant (N-m/A)	0.241	0.356	0.441	0.479	0.488	0.469
Voltage Constant-KE (mV/(r/min))	9.28	13.3	16.4	18.0	17.9	17
Armature Resistance (Ohm)	12.1	9.47	4.9	2.27	1.6	0.6
Armature Inductance (mH)	18.6	16.2	18.52	10.27	10.6	4.6
Electrical Time Constant (ms)	1.54	1.71	3.78	4.52	6.63	7.67
Insulation Class	Class A (UL), Class B (CE)					
Insulation Resistance	100 MΩ, DC 500V above					
Insulation Strength	1.8k Vac, 1 sec					
Weight (kg) (without brake)	0.38	0.5	1.1	1.4	2.05	2.8
Weight (kg) (with brake)	0.68	0.8	1.6	1.9	2.85	3.6
Max. Radial Shaft Load (N)	78	78	245	245	392	392
Max. Thrust Shaft Load (N)	54	54	74	74	147	147
Power Rating (kW/s) (with brake)	9.9	24	34.1	89.6	39.5	93
Rotor Moment of Inertia (x10 ⁻⁴ kg-m ²) (with brake)	0.0255	0.0426	0.12	0.18	0.408	0.614
Mechanical Time Constant (ms) (with brake)	1.44	0.892	0.85	0.5	0.78	0.48
Brake Holding Torque [N·m (min)] ²	0.32	0.32	1.3	1.3	2.5	2.5
Brake Power Consumption (at 20°C) [W]	6.1	6.1	7.2	7.2	8	8
Brake Release Time [ms (Max)]	20	20	20	20	20	20
Brake Pull-in Time [ms (Max)]	35	35	50	50	60	60
Vibration Grade (μm)	V15					
Operating Temperature (°C)	0°C ~ 40°C					
Storage Temperature (°C)	-10°C ~ 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)					
Certification	CE					


Note:
 1. The rated torque is the permissible continuous torque at the operation temperature of 0~40°C when the following heat sink is applied:
 ECM-A3: _04/06/08 : 250 mm x 250mm x 6mm
 Material type: Aluminum- F40, F60, F80
 2. The built-in brake of the servo motor is for clamping the shaft. Never use it for decelerating or stopping the motor



Ordering Information

Servo Motor Specifications

High Inertia ECM-A3H Series

ECM-A3H Series	C104		C106		C108	
	0F	01	02	04	04	07
Rated Output Power (kW)	0.05	0.1	0.2	0.4	0.4	0.75
Rated Torque (N-m) ¹	0.159	0.32	0.64	1.27	1.27	2.39
Maximum Torque (N-m)	0.557	1.12	2.24	4.45	4.44	8.36
Rated Speed (r/min)	3000					
Maximum Speed (r/min)	6000					
Rated Current (Arms)	0.64	0.9	1.45	2.65	2.6	4.61
Maximum Current (Arms)	2.59	3.64	5.4	9.8	9.32	16.53
Power Rating (kW/s)	5.56	13.6	16.4	35.8	17.5	37.8
Rotor Moment of Inertia (x10 ⁻⁴ kg-m ²) (Without brake)	0.0455	0.0754	0.25	0.45	0.92	1.51
Mechanical Time Constant (ms)	2.52	1.43	1.38	0.96	1.32	0.93
Torque Constant (N-m/A)	0.248	0.356	0.441	0.479	0.49	0.52
Voltage Constant-KE (mV/(r/min))	9.54	12.9	16.4	17.2	17.9	18.7
Armature Resistance (Ohm)	12.5	8.34	3.8	1.68	1.19	0.57
Armature Inductance (mH)	13.34	11	8.15	4.03	4.2	2.2
Electrical Time Constant (ms)	1.07	1.32	2.14	2.40	3.53	3.86
Insulation Class	Class A (UL), Class B (CE)					
Insulation Resistance	100 MΩ, DC 500 V above					
Insulation Strength	1.8k Vac, 1 sec					
Weight (kg) (without brake)	0.38	0.5	1.1	1.4	2.05	2.8
Weight (kg) (with brake)	0.68	0.8	1.6	1.9	2.85	3.6
Max. Radial Shaft Load (N)	78	78	245	245	392	392
Max. Thrust Shaft Load (N)	54	54	74	74	147	147
Power Rating (kW/s)(with brake)	4.89	12.5	14.6	33.6	15.07	34.41
Rotor Moment of Inertia (x10 ⁻⁴ kg-m ²) (with brake)	0.0517	0.0816	0.28	0.48	1.07	1.66
Mechanical Time Constant (ms) (with brake)	2.86	1.55	1.54	1.02	1.54	1.02
Brake Holding Torque [Nt-m (min)] ²	0.32	0.32	1.3	1.3	2.5	2.5
Brake Power Consumption (at 20°C) [W]	6.1	6.1	7.2	7.2	8	8
Brake Release Time [ms (Max)]	20	20	20	20	20	20
Brake Pull-in Time [ms (Max)]	35	35	50	50	60	60
Vibration Grade (μm)	V15					
Operating Temperature (°C)	0°C ~ 40°C					
Storage Temperature (°C)	-10°C ~ 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)					
Certification						

Note:

1. ECM-A3: __04/06/08: 250 mm x 250mm x 6mm

The rated torque is the permissible continuous torque at the operation temperature of 0~40°C when the following heat sink is applied:

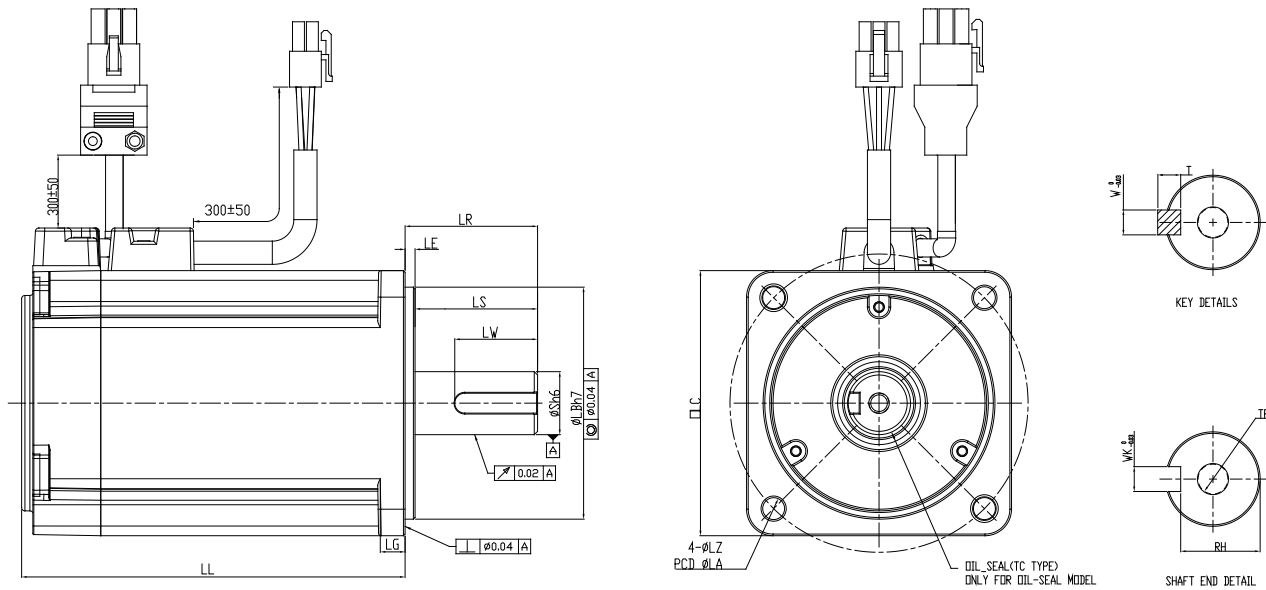
Material: aluminum - F40, F60, F80

2. The built-in brake of the servo motor is for clamping the shaft. Never use it for decelerating or stopping the motor.

Servo Motor Dimensions

ECM-A3 Series

Frame Size 80 mm and Below



Units: mm

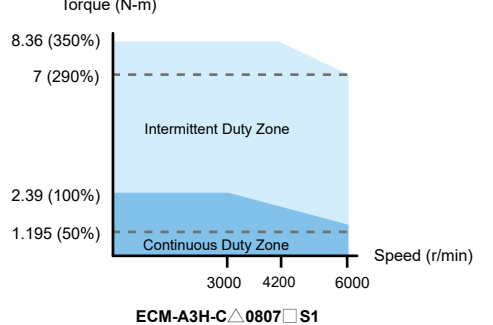
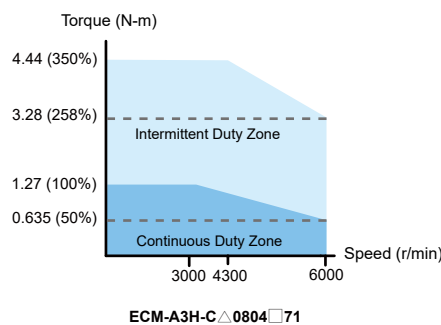
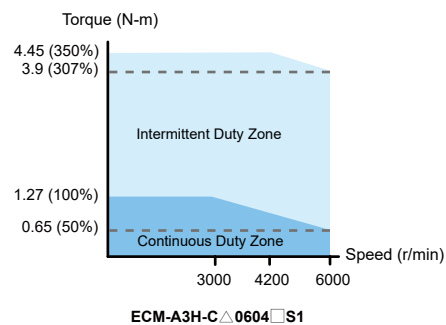
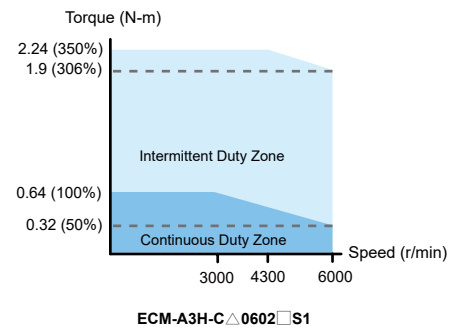
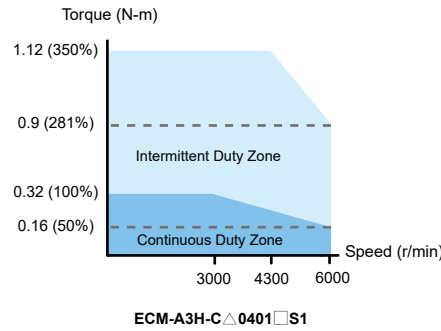
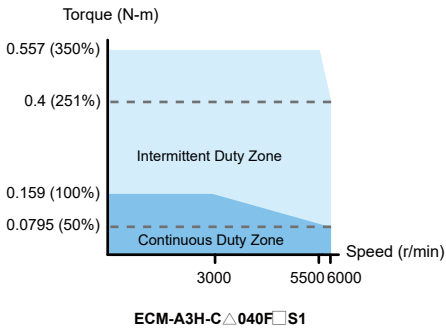
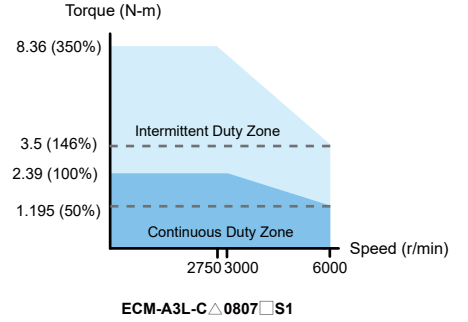
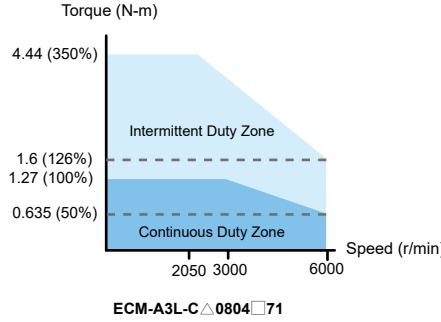
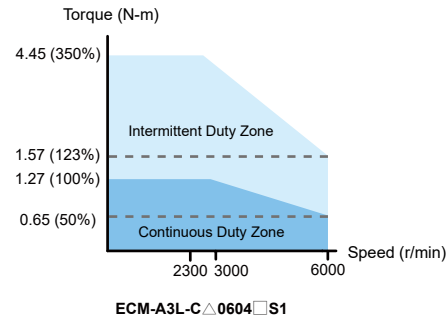
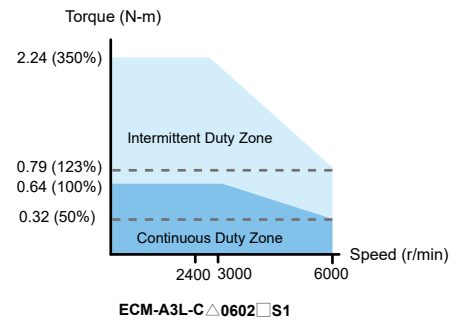
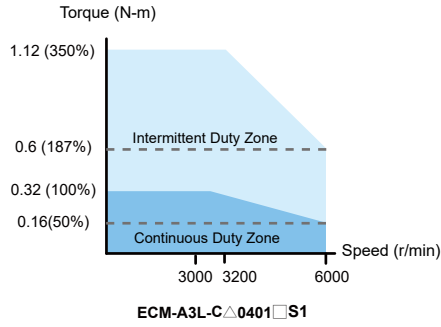
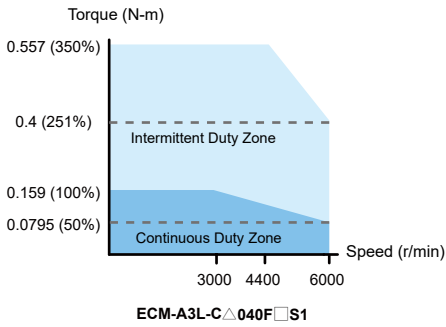
Model	C 1 040F 2 S 3 ^{*1}	C 1 0401 2 S 3	C 1 0602 2 S 3	C 1 0604 2 S 3	C 1 0804 2 7 3	C 1 0807 2 S 3 ^{*2}
LC	40	40	60	60	80	80
LZ	4.5	4.5	5.5	5.5	6.6	6.6
LA	46	46	70	70	90	90
S	8 (⁺⁰ / _{0.009})	8 (⁺⁰ / _{0.009})	14 (⁺⁰ / _{0.011})	14 (⁺⁰ / _{0.011})	14 (⁺⁰ / _{0.011})	19 (⁺⁰ / _{0.013})
LB	30 (⁺⁰ / _{0.021})	30 (⁺⁰ / _{0.021})	50 (⁺⁰ / _{0.025})	50 (⁺⁰ / _{0.025})	70 (⁺⁰ / _{0.03})	70 (⁺⁰ / _{0.03})
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
LS	21.5	22.5	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

Note:
^{*1}. In servo motor model names, [1] signifies encoder type, [2] signifies shaft diameter and oil seal, and [3] signifies special code
^{*2}. When [3] of Model 807 is Z, LS=32, LR=35

Ordering Information

Speed-Torque Curves (T-N Curves)

ECM-A3 Torque Features





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