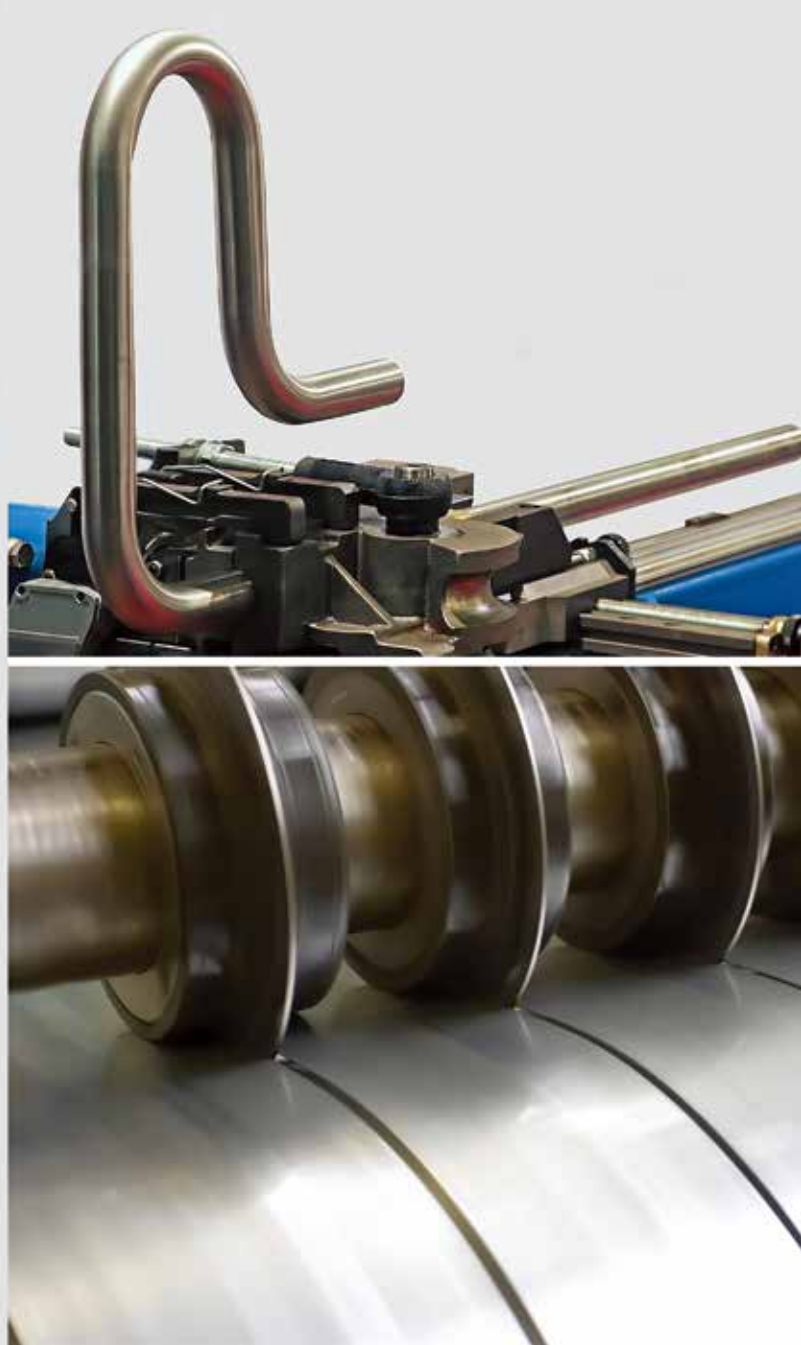




Digitized Automation for a Changing World

Delta Drive System for Motion Control Solutions



www.deltaww.com



Delta Drive System for Motion Control Solutions

This drive system provides high-speed multi-axis automation with excellent heavy load capability. It adopts advanced technologies and high performance servo motors to optimize motor control and enhance system stability. Supporting EtherCAT, it also enables a variety of motion control modes.

With industry-specific functions and quick parameter configuration, this drive system effectively shortens the time for equipment development. Applicable industries include metal forming, material handling, pulp and paper, printing, packaging and entertainment. When combined with Delta's motion controllers, HMI's and programming software, this drive system provides seamless integration, quick configuration and high compatibility.





* Please contact Delta for further inquiries.

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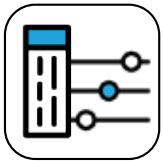
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System Features



Advanced Drive Control

Advanced motor control algorithm to enable a variety of motion control modes, including CSP, CST and HM



User-friendly

Supports electronic tags, system identification and automatic gain tuning for quick system parameter configuration



Motion Control Bus Compatibility

Compatible with most of the motion controllers on the market and leverages

EtherCAT[®] for a broader range of application



Excellent Motor Performance

IE4 efficiency class with low torque ripple and temperature rise



Certified Safety

- Equipped with Safe Torque Off (STO) as standard and Safety Integrity Level (SIL) 2 certified
- Prevents unintentional activation to ensure employee safety



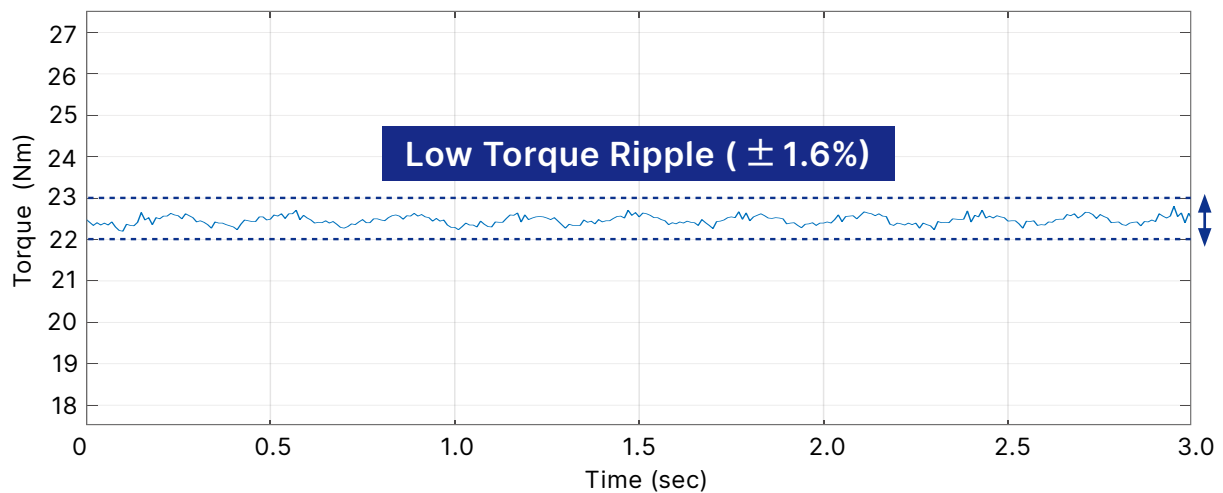
Industry-specific Functional Blocks

Dedicated functional blocks for industries to shorten the time for equipment development and enhance system reliability

System Performance

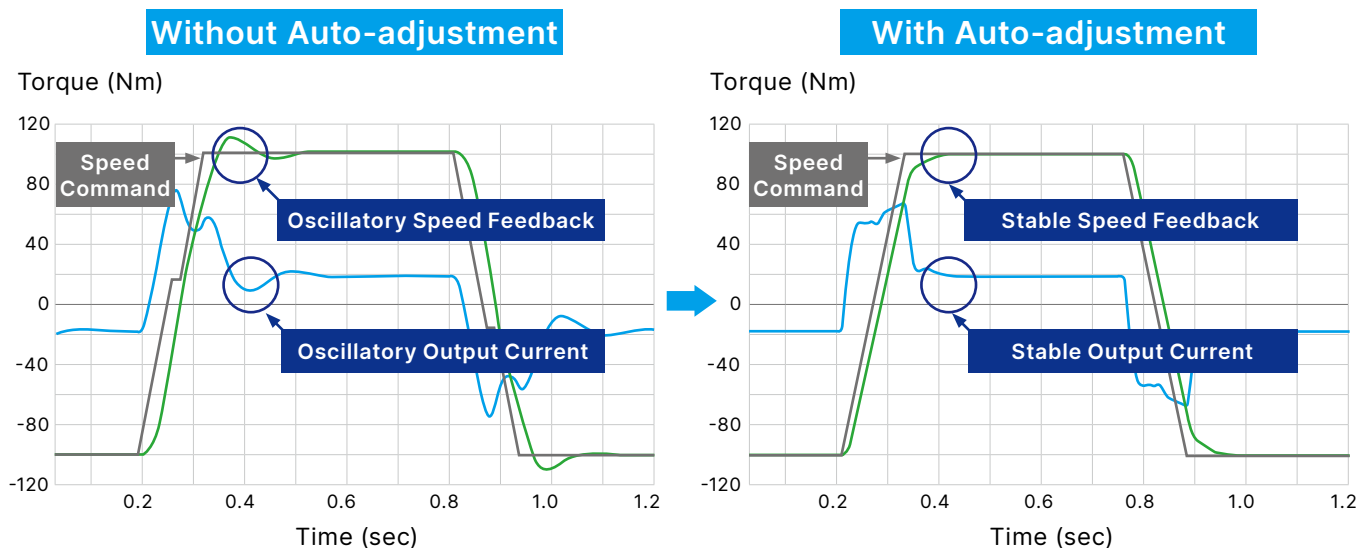
Low Torque Ripple

Advanced control technology combined with high resolution encoders ensures stable speed and low torque ripple ($\pm 1.6\%$).



ASR Automatic Gain Tuning

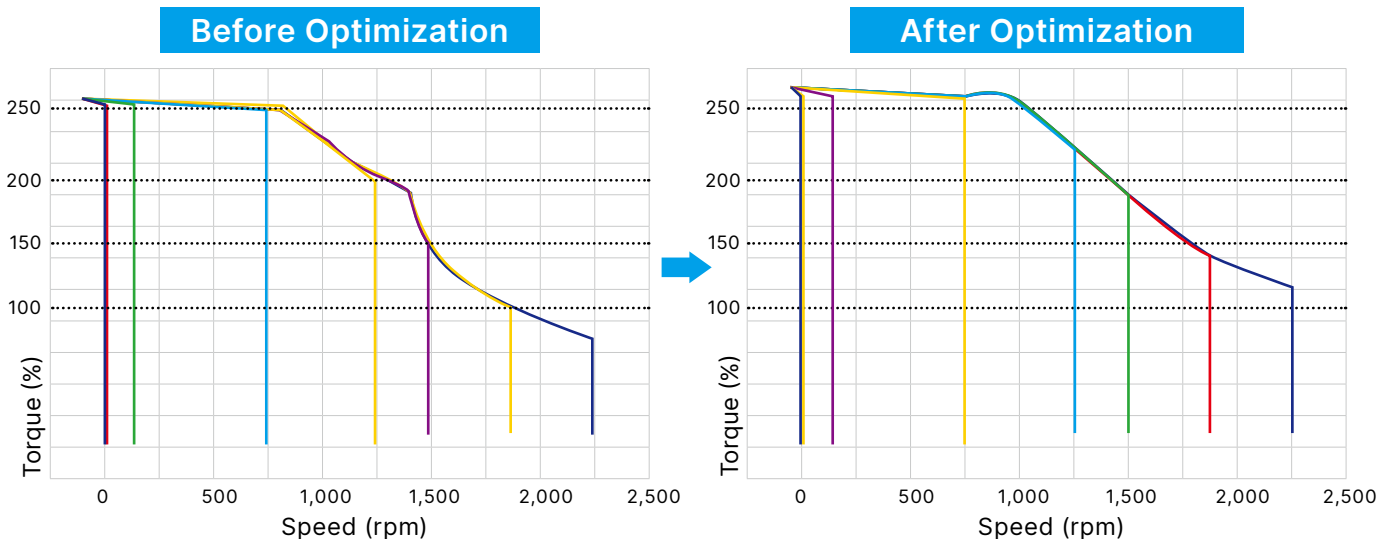
Speed control and parameter gain auto-adjustment increase control stability.



System Performance

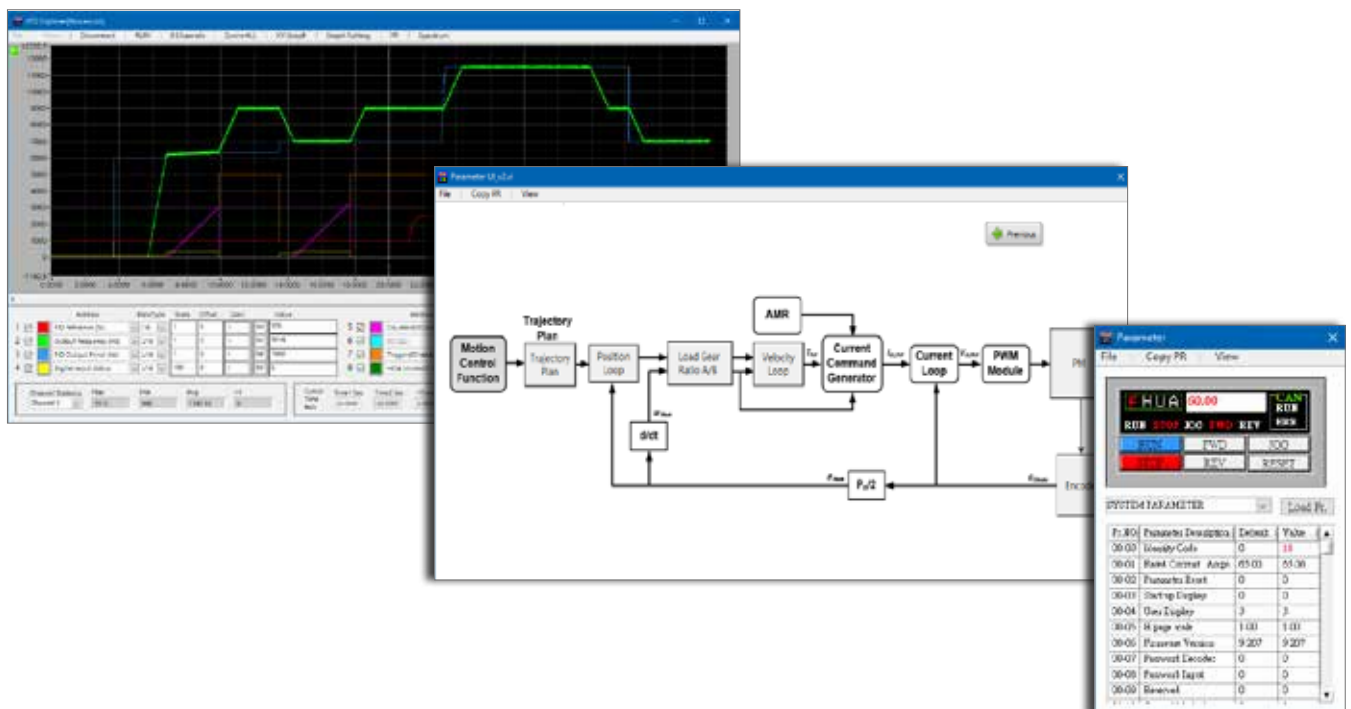
Optimized Motor Control

Control capability is specifically enhanced for IPM motors. Motor parameters can be acquired through self-learning and adjusted to optimal control torque and speed without halting the operation of the machines.



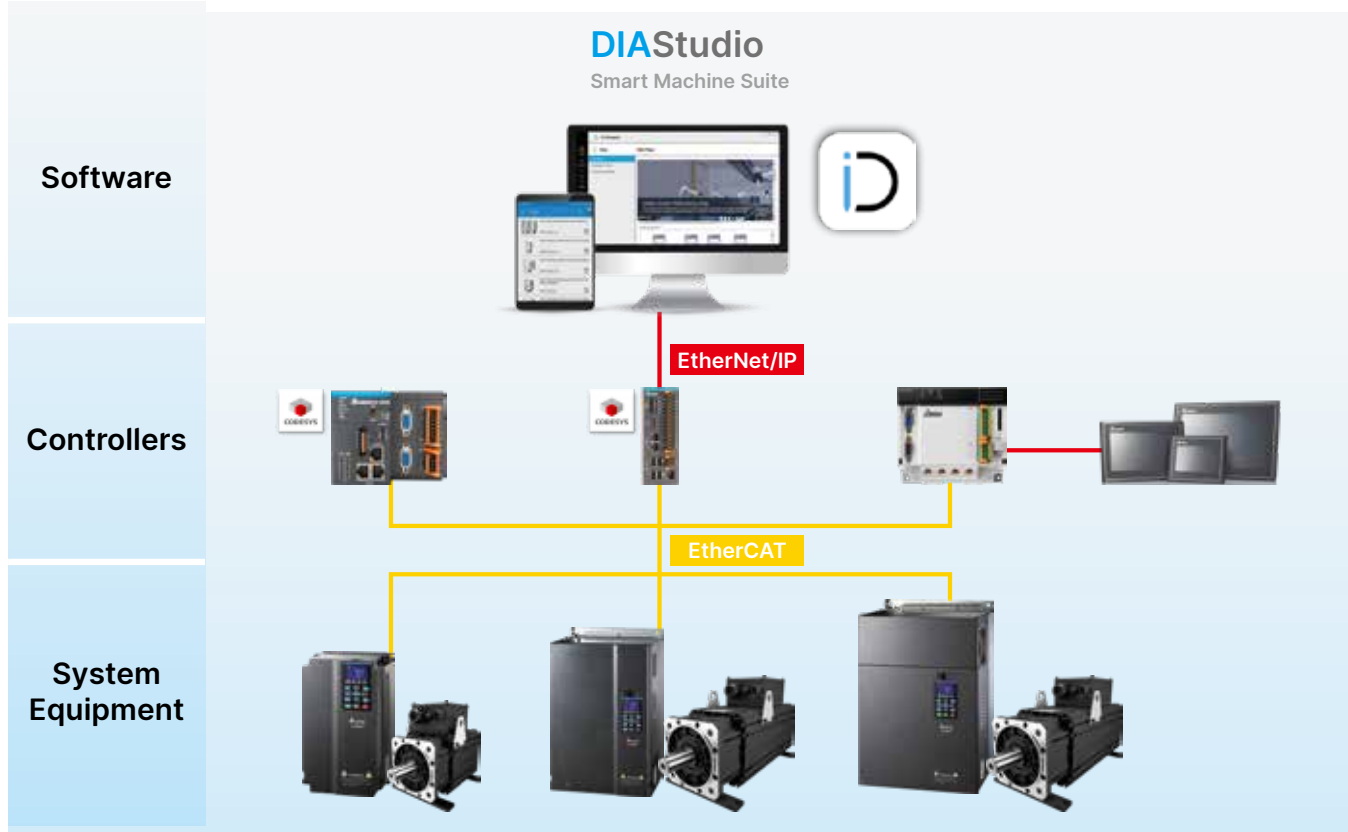
Assisting Software: VFD Explorer Lite

Dedicated software guides machine tuning and testing, system diagnosis, monitoring, and more.



High Compatibility for an Integrated Solution

This drive system can be combined with motion controllers, HMIs and integrated programming software to build a complete solution with high compatibility and stability.



High Performance Multi-axis Motion Controller



CODESYS PC-based Motion Controller AX-8

- CPU of AX-864E supports 64-axis EtherCAT control (1 ms)



CODESYS PC-based Motion Controller AX-3

- CPU of AX-308E supports 8-axis EtherCAT control (2 ms)
- CPU of AX-304EL / AX-364EL supports 4-axis / 64-axis EtherCAT control (point-to-point)



PLC-based Motion Controller DVP-MC

- CPU of DVP-50MC supports 6-axis / 24-axis EtherCAT control (1 ms)
- DVP-50MC-4S / 16S CPU (point-to-point)

Industry Application

Delta Drive System for Motion Control Solutions can be applied to a variety of industries and equipment, including metal forming, material handling, pulp and paper, printing, packaging, and entertainment.



Metal Forming

The solution enhances system stability, processing quality and efficiency. Application includes:

- Servo press
- Punching machines
- Pipe bending machines
- Metal cutting
- Servo bending machines



Material Handling

The solution satisfies the rigorous demands for material handling equipment with outstanding efficiency. Application includes:

- Automated warehousing
- Stackers



Paper and Printing

Equipment for printing and papermaking requires high efficiency and precision. Delta provides industry-specific functional blocks to enhance work quality. Application includes:

- Corrugated paper cutting
- Printing machines



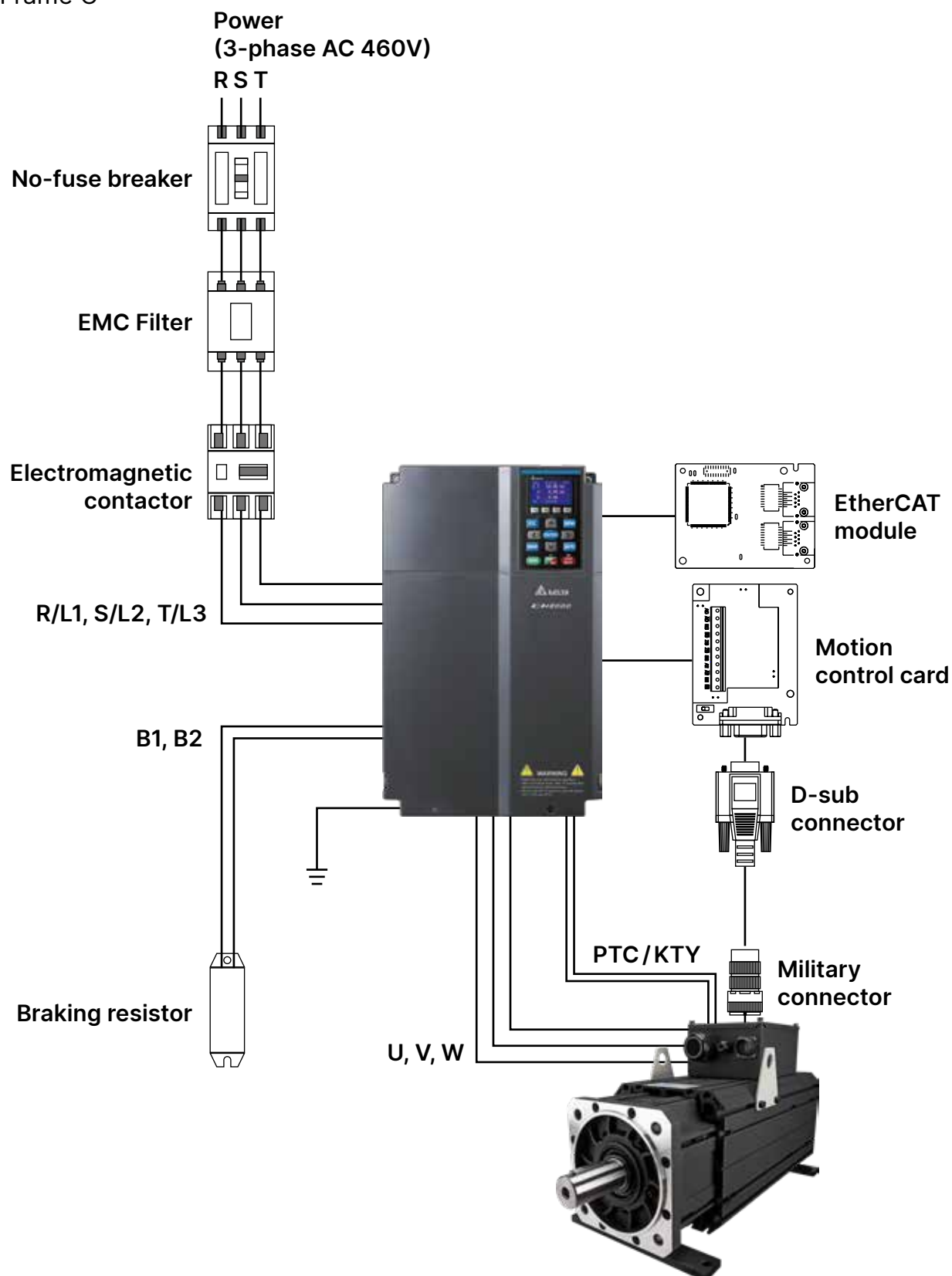
Entertainment

The solution fulfills the strict standards of stage lifts and lighting control, such as high machine stability & safety, and low noise levels. Application includes:

- Stage lifts for theaters and concerts

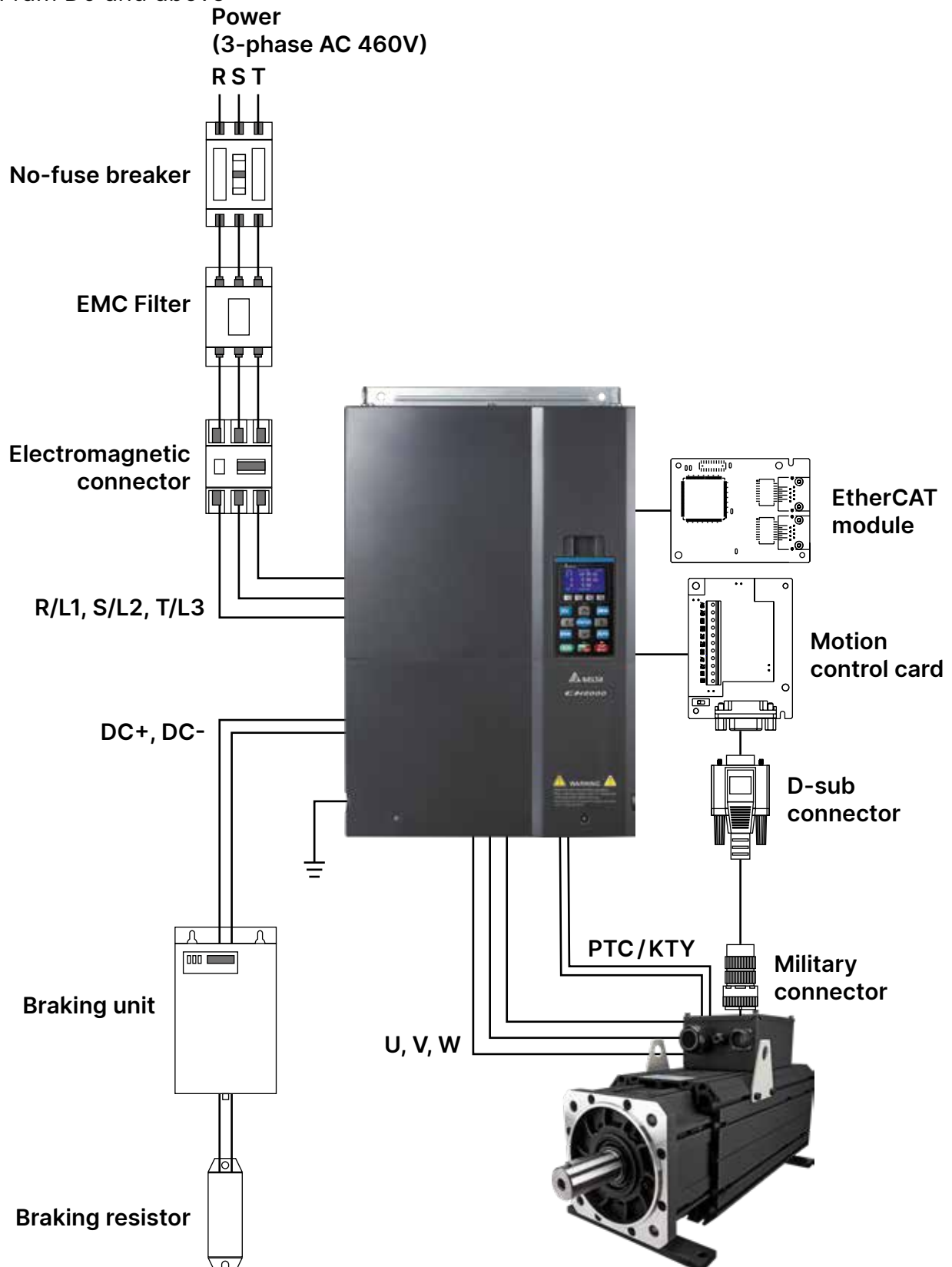
System Configuration

* Frame C

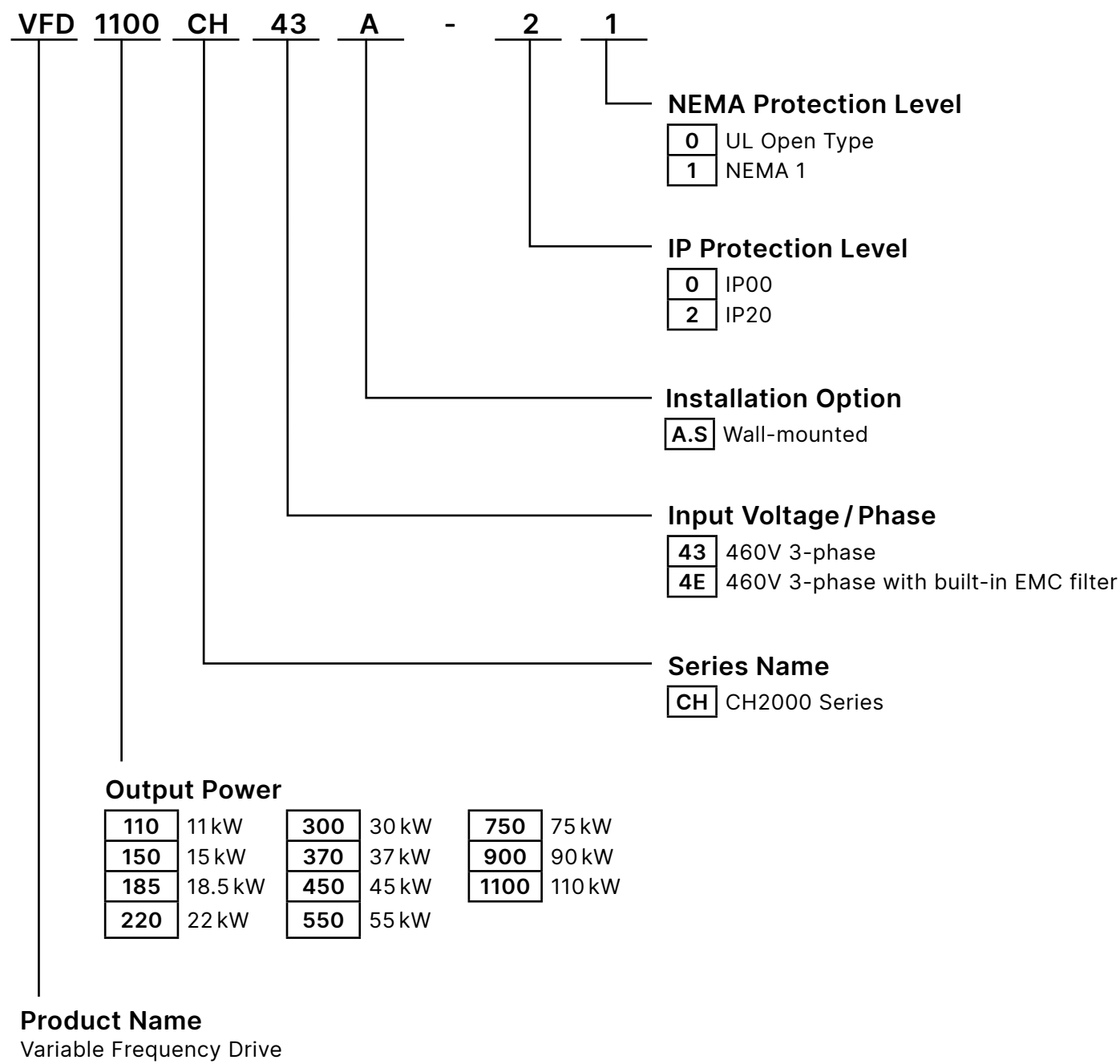


System Configuration

* Fram D0 and above



Model Names: Motor Drives



Product Specifications

	Model Name	Output			Input	Power Supply
Frame	VFD__CH4_-00 / -21	Super Heavy Duty (SHD)			Super Heavy Duty (SHD)	Super Heavy Duty (SHD)
		Motor Power Range (kW)	Motor Power Range (HP)	Rated Output Current (A) * ¹	Rated Input Current (A) * ²	Power Supply Capacity (kVA) * ³
B	110	11	15	24	26	21.6
	150	15	20	32	35	29.1
C	185	18.5	25	38	40	33.3
	220	22	30	45	47	39.1
	300	30	40	60	63	52.4
D0	370	37	50	73	74	61.5
	450	45	60	91	101	84
D	550	55	75	110	114	94.8
	750	75	100	150	157	130.5
E	900	90	125	180	167	138.8
	1100	110	150	220	207	172.1
Super Heavy Duty (SHD)		At 150% of the rated output current, continuous operation lasts up to 1 min. in every 5 mins. At 200% of the rated output current, continuous operation lasts up to 3 secs. in every 30 secs.				
Rated Input Voltage		3 Φ , 380 ~ 480 V _{AC} (-15% ~ +10%)				
Rated Input Frequency		50 / 60 Hz				
Permissible Power Frequency Variation		$\pm$ 5% (47 ~ 63 Hz)				
Displacement Power Factor (cos ϕ)		> 0.98				
Carrier Wave Frequency		Please refer to Note 4 below				
Efficiency		97.8% (Frame B, C, D0, D); 98.2% (Frame E)				
Cooling Method		Forced air-cooling				
Braking Chopper		Built-in for Frame B & C; optional for Frame D0 & D				
DC Reactor		Built-in for Fram D0 & D; optional for Frame B & C				
EMC Filter		Built-in for Frame B & C of VFDXXXCH4EA-21; optional for others				

*1. For applications at high altitude, high ambient temperature, or with high carrier wave and advanced motor vector control, refer to the user manual for corresponding derating curves.

*2. Rated input current may vary with the power supply impedance, power adapter, input impedance, DC reactor and actual loading.

*3. Power supply capacity is calculated based on the rated input current and 480 VAC for the selection of the electrical transformer capacity.

*4. Refer to the user manual for the default carrier wave frequency, adjustable range and derating curves.

General Specifications

Item		Specifications
Control Characteristics	Supported Control Modes	CSP, CST, HM, PP, PT, VL modes
	Applicable Motors	PM
	Max. Output Frequency* ¹	0 ~ 599 Hz
	Frequency Output Accuracy	Digital command: $\pm 0.01\%$, $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$; analog command: $\pm 0.1\%$, $25 \pm 10^{\circ}\text{C}$
	Frequency Setting Resolution	Digital reference: 0.01Hz Analog reference: Max. output frequency (Parameter 01-00) x 0.05%, 11 bit plus sign
	Speed Control Range (Speed Control Ratio) * ²	PMFOC + PG 1:10000
	Starting Torque	PMFOC + PG 200% / 0 Hz
	Torque Accuracy	PMFOC + PG: $\pm 1.6\%$
	Torque Limit	Up to 220% torque current
Protection Characteristics	Drive Protection	Output overcurrent protection, output current clamp, overvoltage (DC) protection, grounding leakage current protection, drive overheat protection
	Motor Protection * ³	Supports electronic thermal relay protection, PTC, KTY84-130 and PT100
	Short-circuit Current Rating (SCCR)	Per UL508C, a CH2000 with a fuse is suitable for power systems with less than 100kA short-circuit capacity
Network Protocols		EtherCAT, CANopen, Modbus
Certifications		CE, UL, RCM, KC, EAC, SEMI F47, WEEE, RoHS, GB12668.3
Safety Standards		Safe Torque Off (STO, EN/IEC61800-5-2), and TUV Rheinland certified
		IEC62061/IEC61508, SIL CL2
		EN ISO13849-1, Cat.3/PL d

*1. The max. output frequency varies with carrier waves and control modes. Please refer to the parameters 01-00 and 06-55 in the user manual for more information.

*2. The rated speed control ratio is intended for heavy duty applications. The range of speed control varies with the environment, applications, motor types or encoders.

*3. Protection levels can be adjusted by parameter settings.

Operating Environment, Storage & Transportation

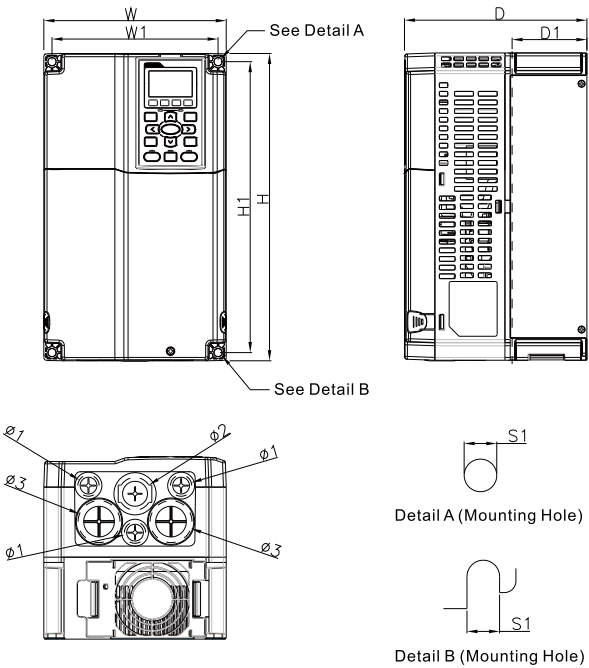
Do NOT expose the AC motor drive to harsh environments, such as dust, direct sunlight, corrosive / flammable gasses, humidity, liquid or vibrations. Airborne salinity must be less than 0.01 mg/cm² per year.

Environment	Installation Location	IEC60364-1/IEC60664-1 Pollution degree 2, indoor use only	
	Surrounding Temperature (°C)	Storage / Transportation	-25 ~ 70
		Only allowed in non-condensation, non-frost, non-conductive environment	
	Rated Humidity (%)	Operation / Storage / Transportation	Max. 95
		Only allowed in non-condensation, non-frost, non-conductive environment	
	Air Pressure (kPa)	Operation	86 ~ 106
		Transportation	70 ~ 106
	Pollution Level	IEC60721-3-3	
		Operation	Class 3C3; Class 3S2
		Storage	Class 1C2; Class 1S2
		Transportation	Class 2C2; Class 2S2
If the AC motor drive is to be used under harsh environment with high level of contamination (e.g. dew, water, dust), make sure it is installed in an environment qualified for IP54 such as in a cabinet			
Altitude	Operation	If the AC motor drive is installed at an altitude between 0~1000 m, follow normal operation restrictions. If it is installed at altitude between 1000 ~ 2000 m, decrease 1% of rated current or lower 0.5°C of temperature for every 100 m increase in altitude. Maximum altitude for Corner Grounded TN system is 2000 m, for application over 2000 m please contact Delta for more details	
Package Drop	Storage / Transportation	ISTA procedure 1 A (according to weight) IEC60068-2-31	
Vibration	1.0mm, peak to peak value range from 2Hz to 13.2Hz; 0.7G~1.0G range from 13.2Hz to 55Hz; 1.0G range from 55Hz to 512Hz. Complies with IEC 60068-2-6.		
Impact	IEC / EN 60068-2-27		
Operation Position	Max. allowed offset angle ±10° (under normal installation position)		

Dimensions: Motor Drives

Frame B

Model
VFD110CH43A-21
VFD150CH43A-21
VFD110CH4EA-21
VFD150CH4EA-21

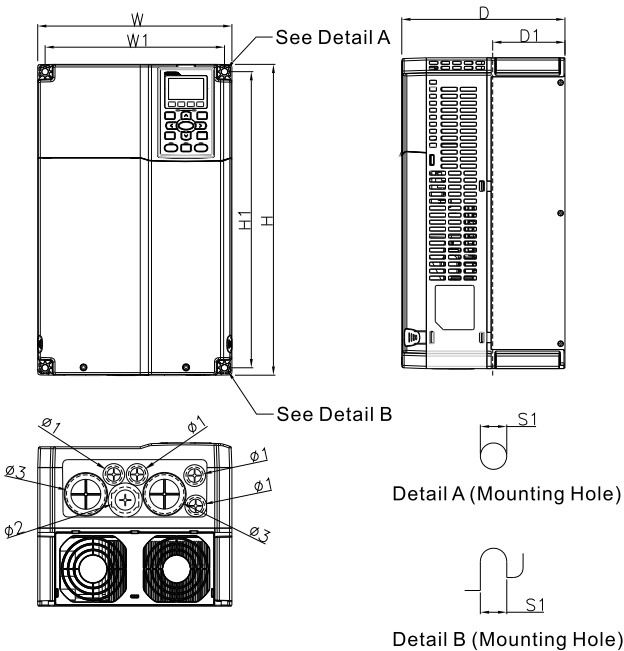


Frame		W	H	D	W1	H1	D1*	S1	$\phi 1$	$\phi 2$	$\phi 3$
B	mm	190.0	320.0	190.0	173.0	303.0	77.9	8.5	22.2	34.0	43.8
	inch	7.48	12.6	7.48	6.81	11.93	3.07	0.33	0.87	1.34	1.72

*D1: Flange mount

Frame C

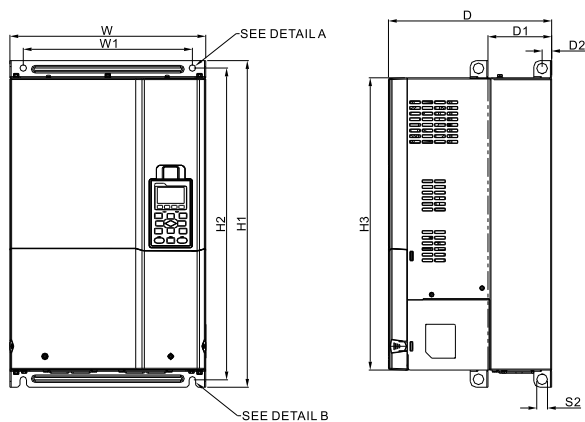
Model
VFD185CH43A-21
VFD220CH43A-21
VFD300CH43A-21
VFD185CH4EA-21
VFD220CH4EA-21
VFD300CH4EA-21



Frame		W	H	D	W1	H1	D1*	S1	$\phi 1$	$\phi 2$	$\phi 3$
C	mm	250.0	400.0	210.0	231.0	381.0	92.9	8.5	22.2	34.0	50.0
	inch	9.84	15.75	8.27	9.09	15.00	3.66	0.33	0.87	1.34	1.97

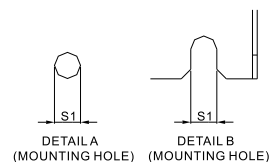
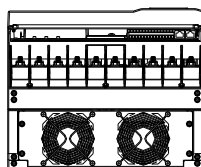
*D1: Flange mount

Frame D1



Model

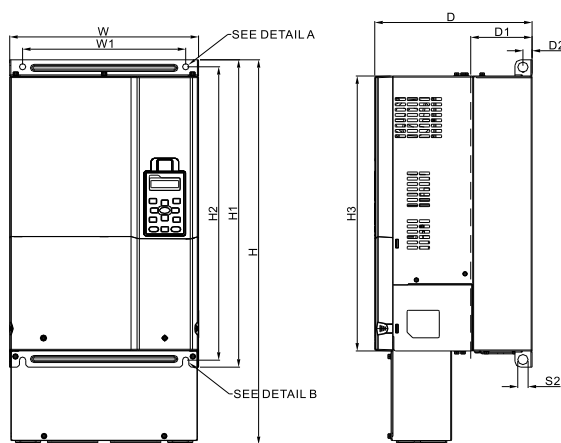
VFD450CH43A-00
VFD550CH43A-00
VFD750CH43A-00



Frame		W	H	D	W1	H1	H2	H3	D1*	D2	S1	S2	Ø1	Ø2	Ø3
D1	mm	330.0	-	275.0	285.0	550.0	525.0	492.0	107.2	16.0	11.0	18.0	-	-	-
	inch	12.99	-	10.83	11.22	21.65	20.67	19.37	4.22	0.63	0.43	0.71	-	-	-

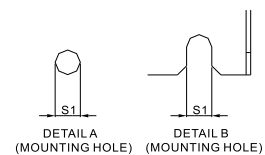
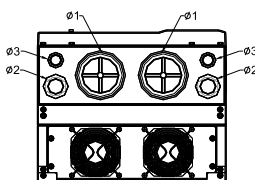
*D1: Flange mount

Frame D0-2



Model

VFD370CH43S-21

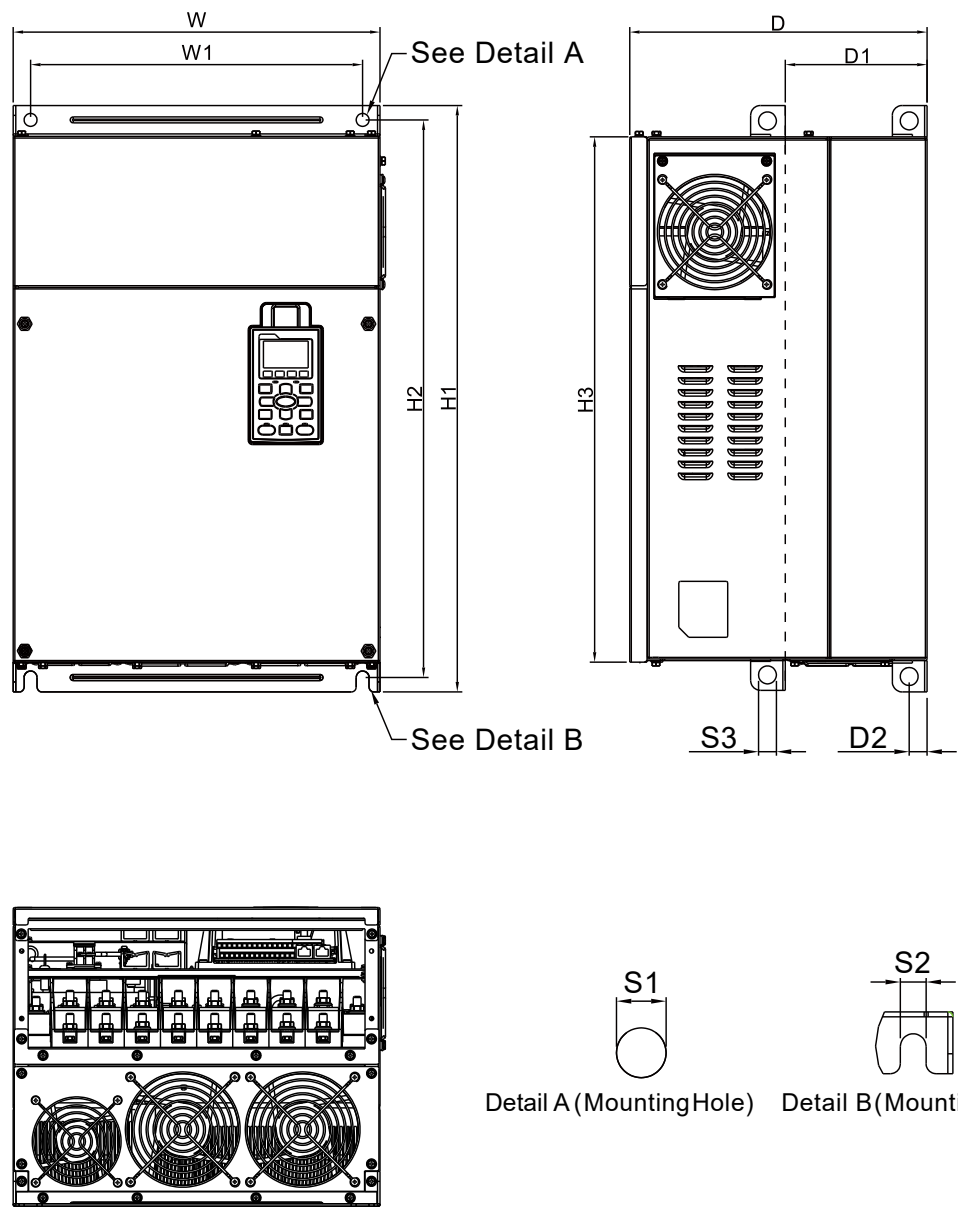


Frame		W	H	D	W1	H1	H2	H3	D1*	D2	S1	S2	Ø1	Ø2	Ø3
D0-2	mm	330.0	614.4	255.0	235.0	500.0	475.0	442.0	94.2	16.0	11.0	18.0	62.7	34.0	22.0
	inch	12.99	24.19	10.04	9.25	16.69	18.70	17.40	3.71	0.63	0.43	0.71	2.47	1.34	0.87

*D1: Flange mount

Dimensions: Motor Drives

Frame E1



Model
VFD900CH43A-00
VFD1100CH43A-00

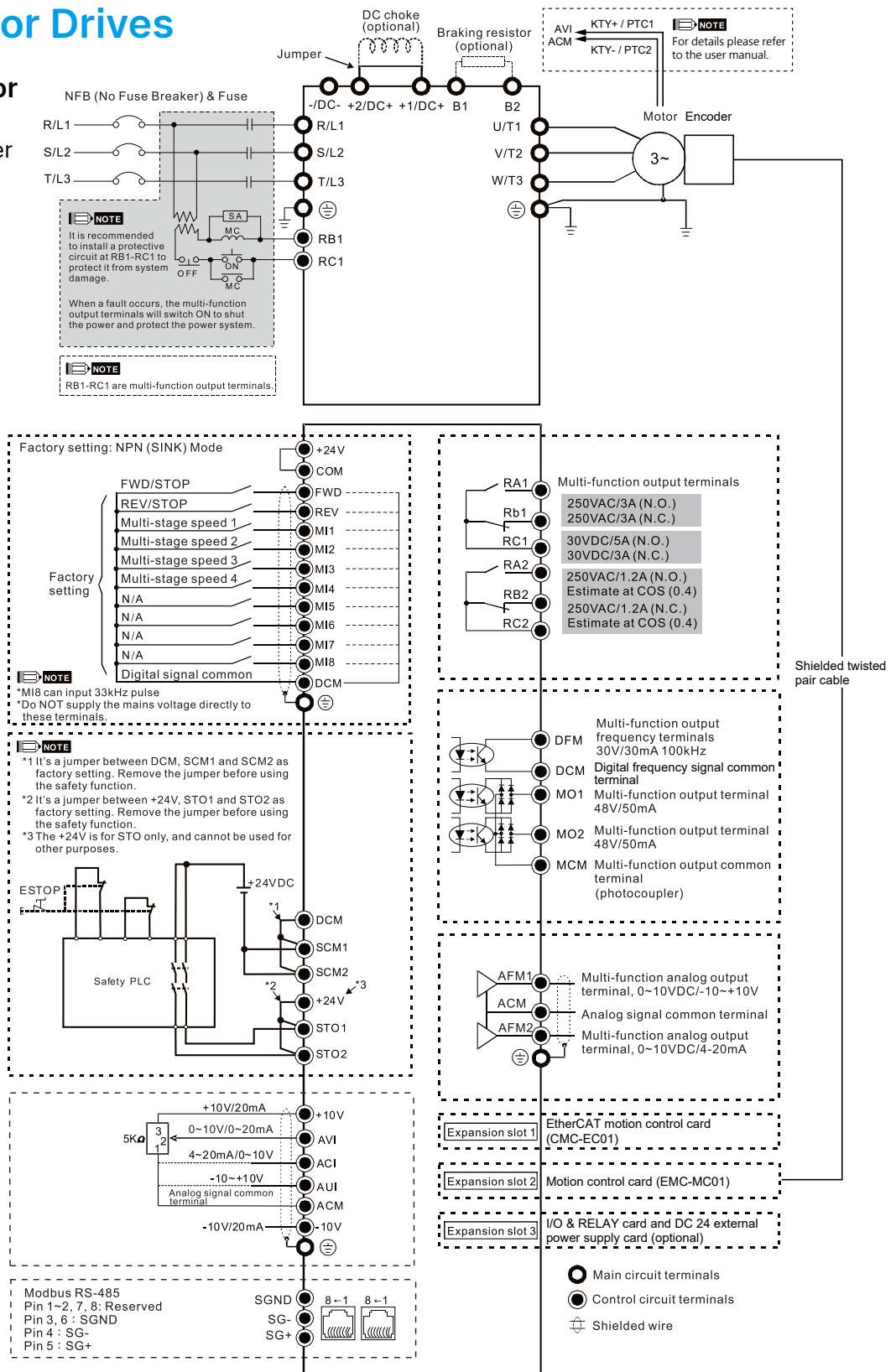
Frame		W	H	D	W1	H1	H2	H3	D1*	D2	S1 / S2	S3	Ø1	Ø2	Ø3
E1	mm	370.0	-	300.0	335.0	589.0	560.0	528.0	143.0	18.0	13.0	18.0	-	-	-
	inch	14.57	-	11.81	13.19	23.19	22.05	20.80	5.63	0.71	0.51	0.71	-	-	-

*D1: Flange mount

Wiring: Motor Drives

Wiring Diagram for Frame B-C

*Input: 3-phase power



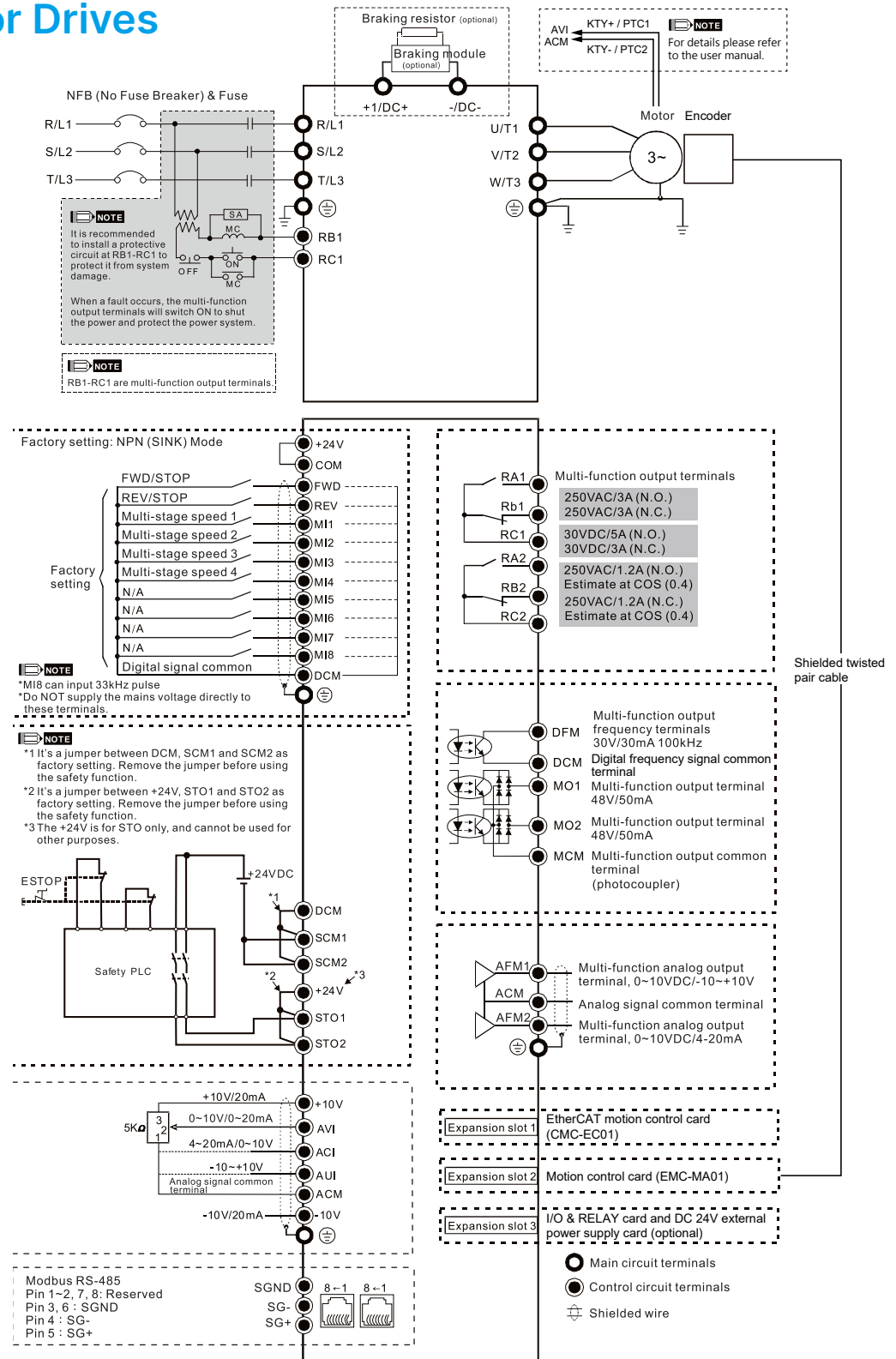
NOTE

It is not recommended to use a power capacitor or automatic power factor regulator (APFR) at the power input side. If the system requires such a device, please make sure a reactor is installed between the drive and the power capacitor or APFR.

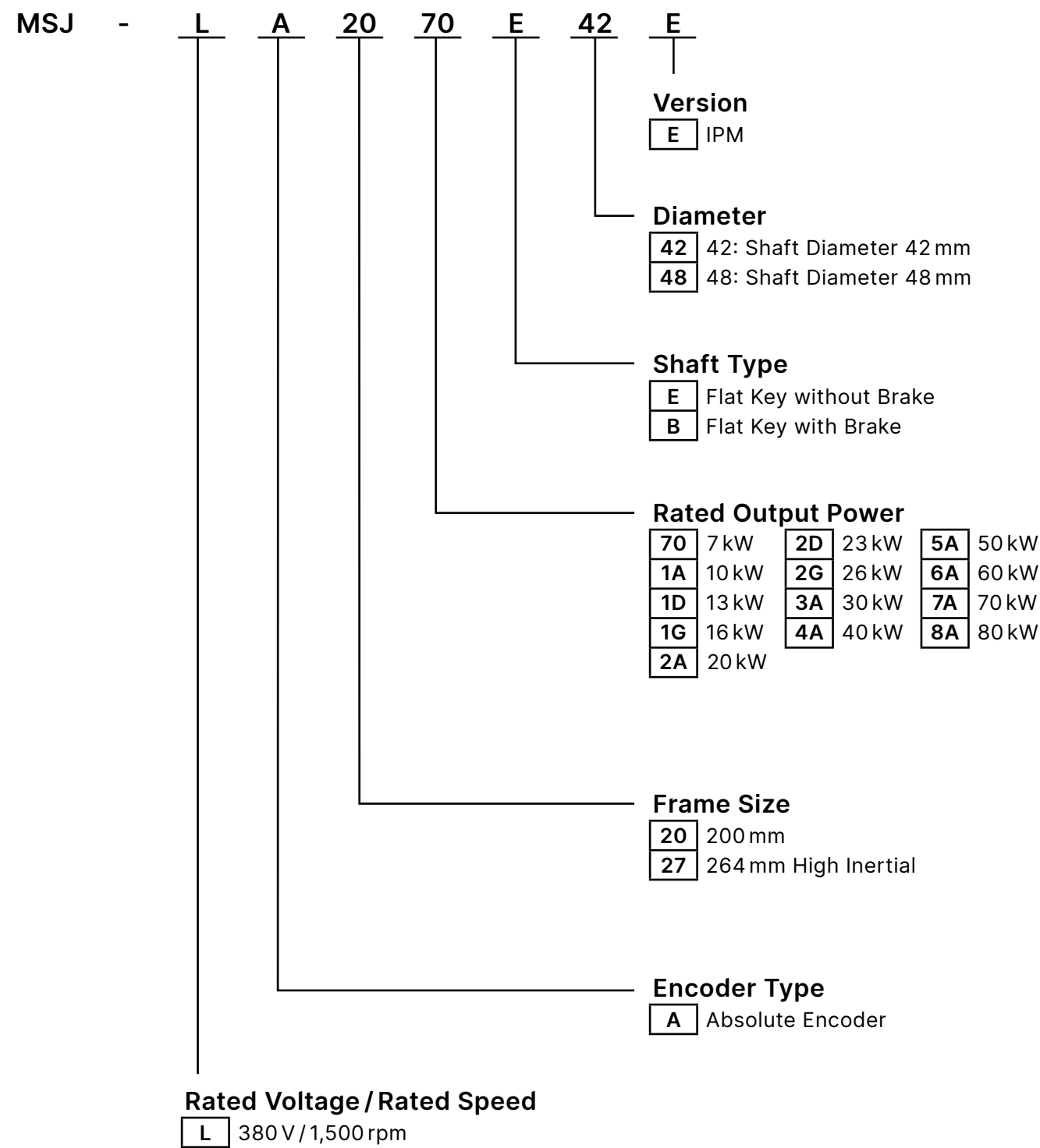
Wiring: Motor Drives

Wiring Diagram for Frame D ~ E

*Input: 3-phase power



Model Names: Servo Motors



Specifications: Servo Motors

High Inertia - Frame Size 200 mm

MSJ-LA20 □□□□□□		70E42E/ 70B42E	1AE42E	1DE42E/ 1DB42E	1GE42E/ 1GB42E	2AE42E/ 2AB42E	2DE42E/ 2DB42E	2GE42E/ 2GB42E
Voltage	V	380						
High Performance Rated Power* ¹	kW	7	10	13	16	20	23	26
Power Δ T=100°C	kW	8.5	12	16	19	24	28	31
Poles		8						
Rated Torque* ¹	Nm	44.6	63.7	82.8	102	127	146	166
Rated Current* ¹	A	12.2	17.7	23.9	29.6	35.2	40.1	48.6
Overload Torque* ²	Nm	89.2	127.4	165.6	204	254	292	332
Overload Current	A	26.9	38.9	52.6	65.1	77.5	88.3	107
Rated Speed	rpm	1,500						
Max. Speed* ³	rpm	2,250						
Torque Constant* ¹	Nm/A	3.64	3.6	3.47	3.44	3.62	3.65	3.4
Back E.M.F. Constant	V/krpm	217	217	207	207	217	217	207
Wire Resistance	ohm	1.38	0.77	0.50	0.37	0.31	0.256	0.203
Q-axis Inductance	mH	21.2	16.0	10.2	8.4	7.5	6.6	5.2
D-axis Inductance	mH	11.3	7.9	5.28	4.15	3.8	3.2	2.6
Rotation Inertia	kg-cm ²	62	87	112/115	137/140	160/163	187/190	213/216
Weight	kg	39.5	46	53/65	59.5/72	67.5/79	74/86	83.6/93
Braking Torque* ⁴	Nm	-	-	150				
Braking Power Dissipation	Watt	-	-	61 (@24 V _{DC})				
Brake Release Time	ms	162	-	162				
Brake Pull-in Time	ms	77	-	77				
Efficiency	%	92.9	93.8	94.2	94.5	94.8	94.9	95.1
Frame Size	mm	200 x 200						
Insulation Class		Class F (Winding: Class H)						
Protection Level		IP54						
Efficiency Level		IE4 (IEC60034-30-2) China Energy Label Grade 1 (GB30253-2013)						
Cooling Method		Forced air-cooling AC Fan 220 V _{AC}						
Encoder Type		Absolute encoder (TAMAGAWA 17bits TS5700N8501)						
Motor Temperature Protection		PTC130 thermistor and KTY84-130 temperature sensor						
Operating Environment		Temperature: -15 ~ 40°C; humidity: 20 ~ 90% (no condensation); altitude: < 1,000 m						
Installation Type		Flange/Support legs						
International Certification		CE						

*1: High performance operating points tested with higher standard: Temperature rise being less than 80°C at steady thermal state (de facto standard as 100°C).

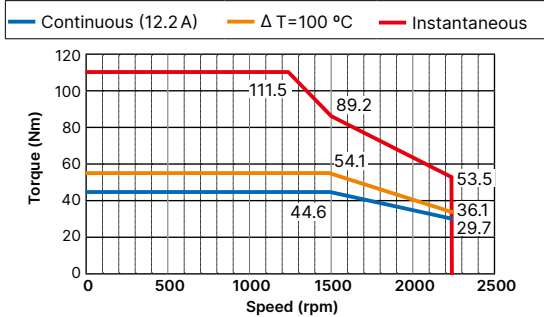
*2: Periodic overload torque at 1,500rpm: Recommended to be twice of rated torque. For operation conditions please refer to the overload capacity chart of the motor characteristic curve. Actual max. torque can reach 250% while lasting time is shorter and is subject to certain operation restrictions.

*3: Actual max. speed can be elevated by the field-weakening capability of the drive. 2,250rpm is a suggested value and does not stand for the maximum number.

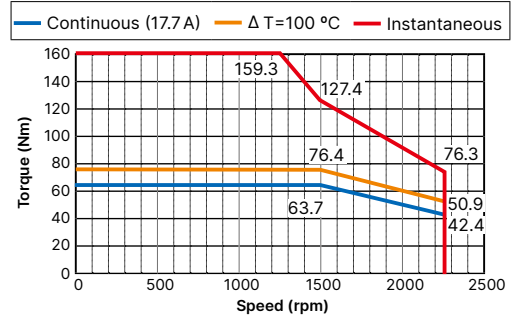
*4: Normal use for static braking; for dynamic braking, rotation speed should be lower than 50 rpm, and braking time be less than 1 sec.

Torque Characteristics

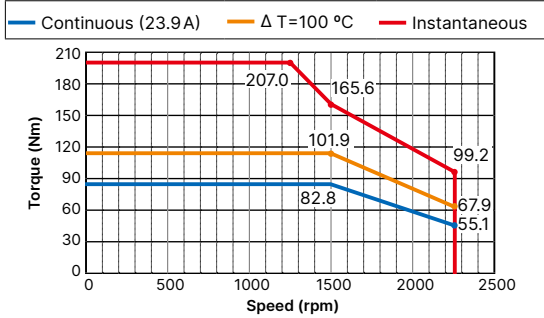
Torque-Speed Curve
MSJ-LA2070E42E/MSJ-LA2070B42E (7 kW)



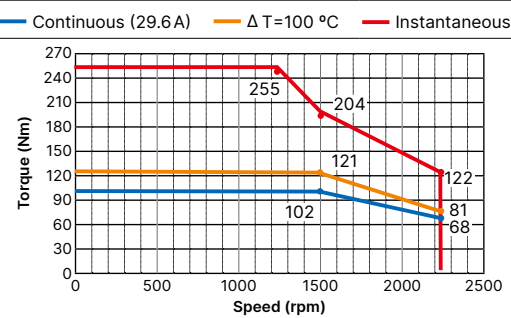
Torque-Speed Curve
MSJ-LA201AE42E (10 kW)



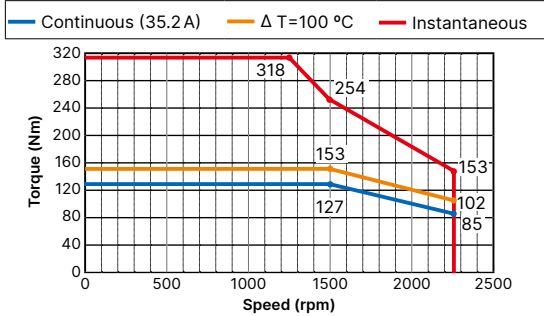
Torque-Speed Curve
MSJ-LA201DE42E/MSJ-LA201DB42E (13 kW)



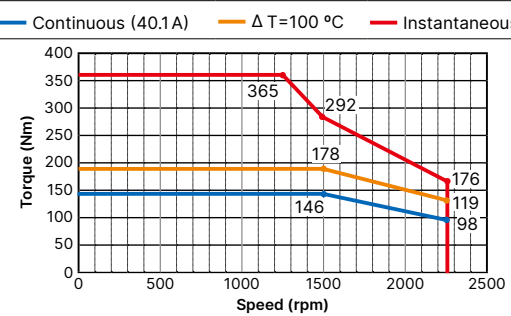
Torque-Speed Curve
MSJ-LA201GE42E/MSJ-LA201GB42E (16 kW)



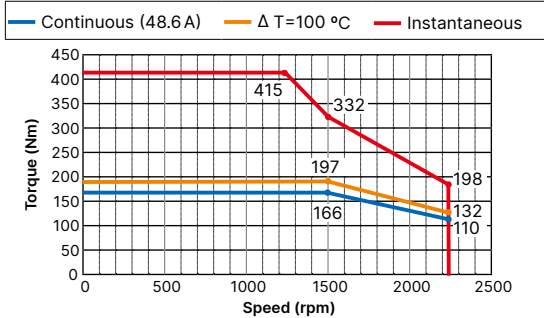
Torque-Speed Curve
MSJ-LA202AE42E/MSJ-LA202AB42E (20 kW)



Torque-Speed Curve
MSJ-LA202DE42E/MSJ-LA202DB42E (23 kW)



Torque-Speed Curve
MSJ-LA202GE42E/MSJ-LA202GB42E (26 kW)



Specifications: Servo Motors

High Inertia - Frame Size 264 mm

MSJ-LA27 □□□□□□		3AE48E/ 3AB48E	4AE48E/ 4AB48E	5AE48E/ 5AB48E	6AE48E	7AE48E	8AE48E
Voltage	V	380					
High Performance Rated Power* ¹	kW	30	40	50	60	70	80
Power Δ T=100°C	kW	32	45	55	65	75	85
Poles		8					
Rated Torque* ¹	Nm	191	255	318	382	446	510
Rated Current* ¹	A	58	77	96.2	110	128	154
Overload Torque* ²	Nm	382	510	636	764	892	1,020
Overload Current	A	128	170	211	242	282	339
Rated Speed	rpm	1,500					
Max. Speed* ³	rpm	2,250					
Torque Constant* ¹	Nm/A	3.29	3.31	3.31	3.48	3.48	3.31
Back E.M.F. Constant	V/krpm	195	200	200	210	210	200
Wire Resistance	ohm	0.13	0.093	0.072	0.062	0.051	0.040
Q-axis Inductance	mH	5.1	3.95	3.14	2.87	2.46	1.94
D-axis Inductance	mH	2.54	1.98	1.57	1.44	1.23	0.97
Rotation Inertia	kg-cm ²	385	496	607	718	829	940
Weight	kg	115	134	152	170.5	193	215
Braking Torque* ⁴	Nm	-	-	235			
Braking Power Dissipation	Watt	-	-	85 (@24 V _{DC})			
Brake Release Time	ms	-	-	260			
Brake Pull-in Time	ms	-	-	78			
Efficiency	%	95.3	95.6	95.8	95.9	96.0	96.1
Frame Size	mm	264 x 264					
Insulation Class		Class F (Winding: Class H)					
Protection Level		IP54					
Efficiency Level		IE4 (IEC60034-30-2) China Energy Label Grade 1 (GB30253-2013)					
Cooling Method		Forced air-cooling AC Fan 220 V _{AC}					
Encoder Type		Absolute encoder (TAMAGAWA 17bits TS5700N8501)					
Motor Temperature Protection		PTC130 thermistor and KTY84-130 temperature sensor					
Operating Environment		Temperature: -15 ~ 40°C; humidity: 20 ~ 90% (no condensation); altitude: < 1,000 m					
Installation Type		Flange/Support legs					
International Certification		CE					

*1: High performance operating points tested with higher standard: Temperature rise being less than 80°C at steady thermal state (de facto standard as 100°C).

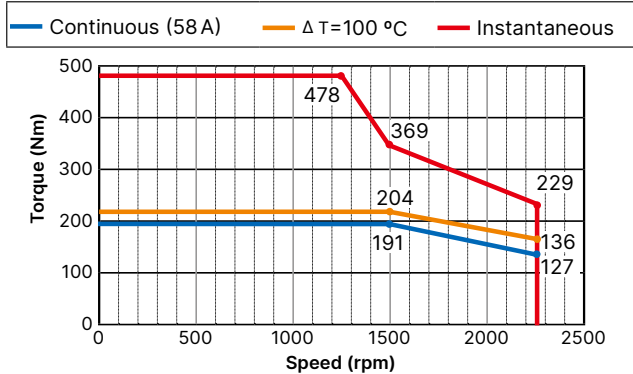
*2: Periodic overload torque at 1,500rpm: Recommended to be twice of rated torque. For operation conditions please refer to the overload capacity chart of the motor characteristic curve. Actual max. torque can reach 250% while lasting time is shorter and is subject to certain operation restrictions.

*3: Actual max. speed can be elevated by the field-weakening capability of the drive. 2,250rpm is a suggested value and does not stand for the maximum number.

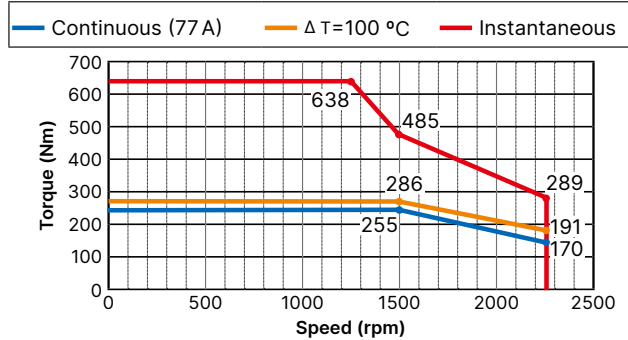
*4: Normal use for static braking; for dynamic braking, rotation speed should be lower than 50 rpm, and braking time be less than 1 sec.

Torque Characteristics

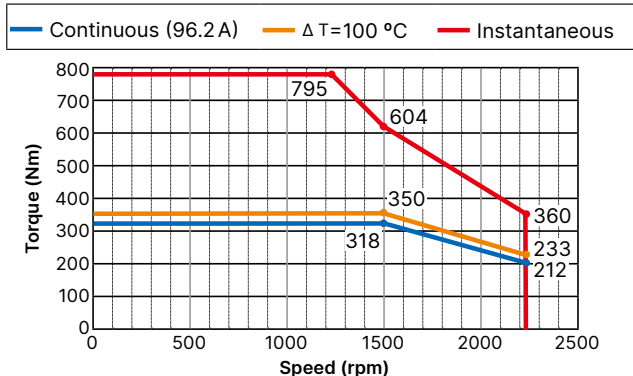
**Torque-Speed Curve
MSJ-LA273AE48E/MSJ-LA273AB48E (30 kW)**



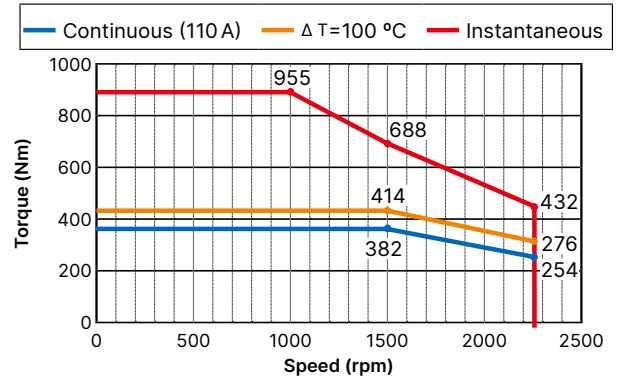
**Torque-Speed Curve
MSJ-LA274AE48E/MSJ-LA274AB48E (40 kW)**



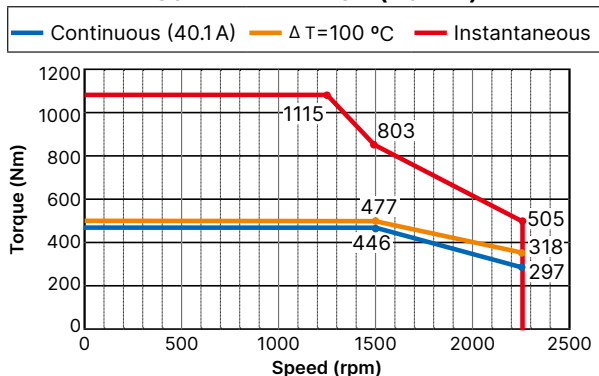
**Torque-Speed Curve
MSJ-LA275AE48E/MSJ-LA275AB48E (50 kW)**



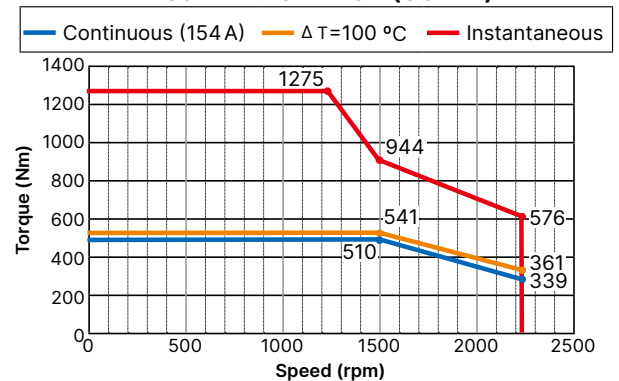
**Torque-Speed Curve
MSJ-LA276AE48E (60 kW)**



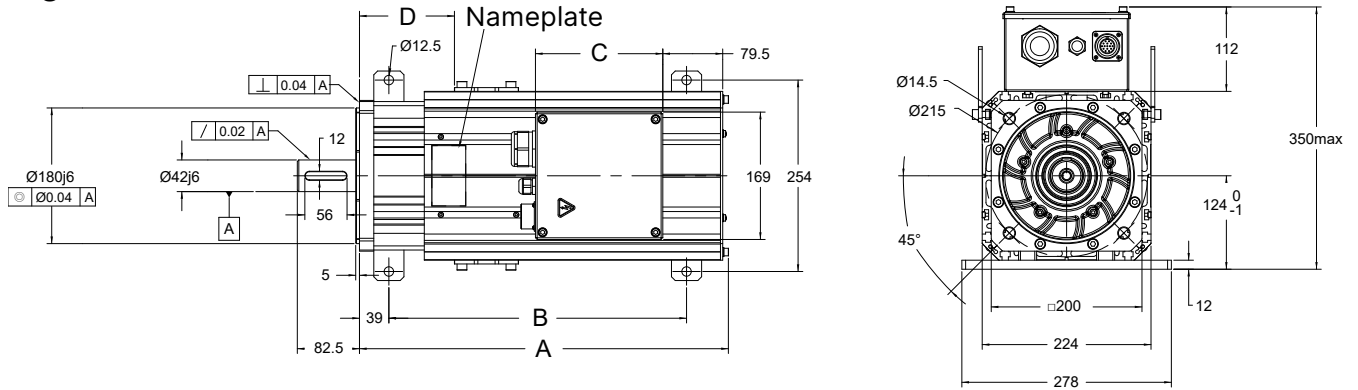
**Torque-Speed Curve
MSJ-LA277AE48E (70 kW)**



**Torque-Speed Curve
MSJ-LA278AE48E (80 kW)**



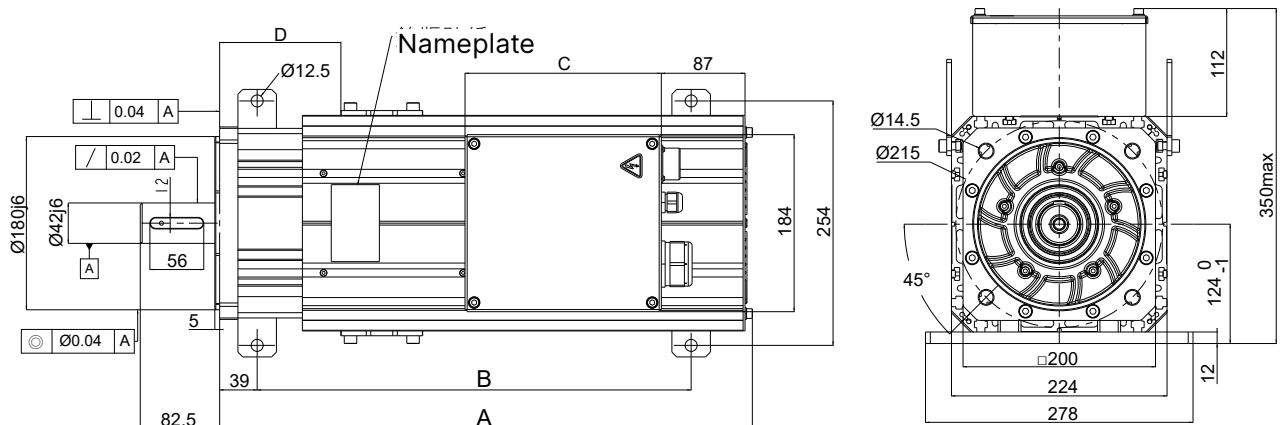
Frame Size 200 mm High Inertia Series



Model MSJ-		LA2070E42E	LA201AE42E	LA201DE42E	LA201GE42E	LA202AE42E	LA202DE42E	LA202GE42E
A	mm	345	381	417	453	489	525	575
B	mm	265	285	310	350	395	430	470
C	mm	169						204
D	mm	95	110	130	150	160	180	200

* The sizes for Model B can be adjusted to needs.

Frame Size 200 mm
High Inertia Series (with Brake)

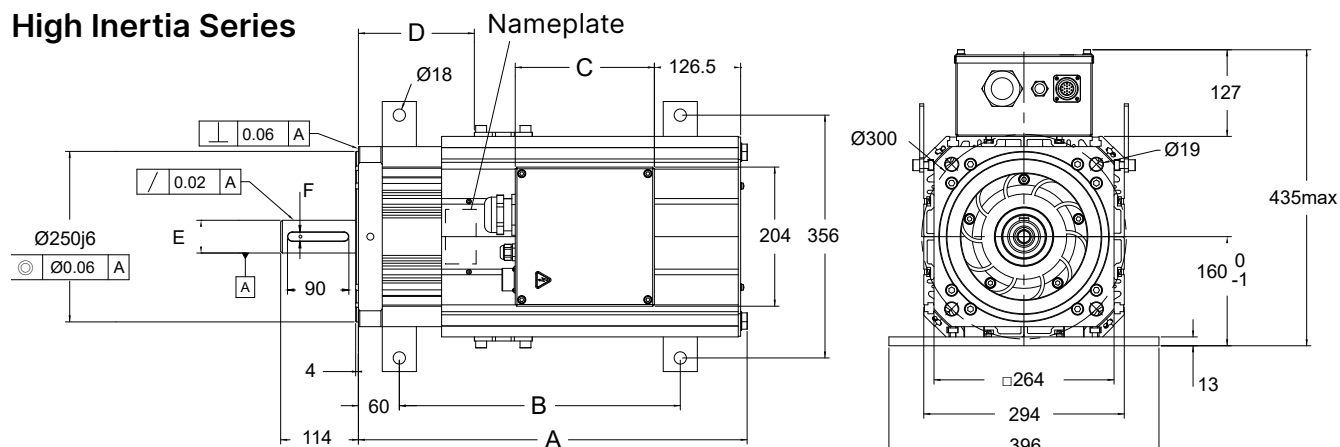


Model MSJ-		LA2070B42E	LA201DB42E	LA201GB42E	LA202AB42E	LA202DB42E	LA202GB42E
A	mm	345	518	554	590	626	676
B	mm	265	410	451	496	531	568
C	mm	204					
D	mm	126	126	126	126	126	145

* The sizes for Model B can be adjusted to needs.

* For models with brakes, wires of connection terminals are at the back of the motor.

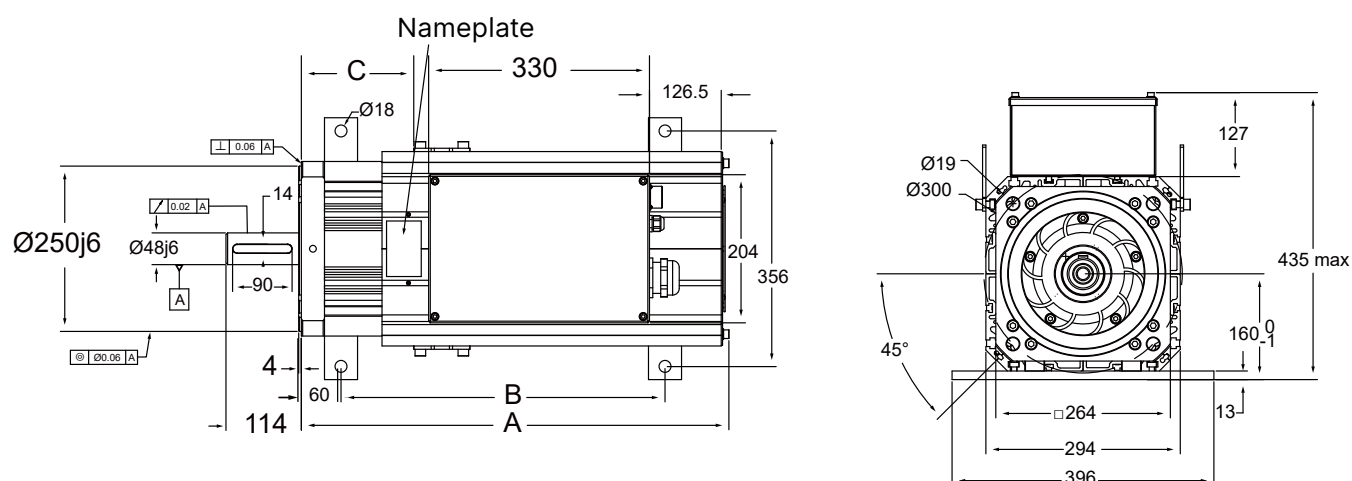
Frame Size 264 mm High Inertia Series



Model MSJ-		LA273AE48E	LA274AE48E	LA275AE48E	LA276AE48E	LA277AE48E	LA278AE48E
A	mm	523.5	577	630.5	684	757.5	811
B	mm	365	419	473	527	600	653
C	mm	204		264			
D	mm	140	170	200	220	250	280
E	mm	Ø48j6				Ø60j6	
F	mm	14				18	

* The sizes for Model B can be adjusted to needs.

Frame Size 264 mm High Inertia Series (with Brake)



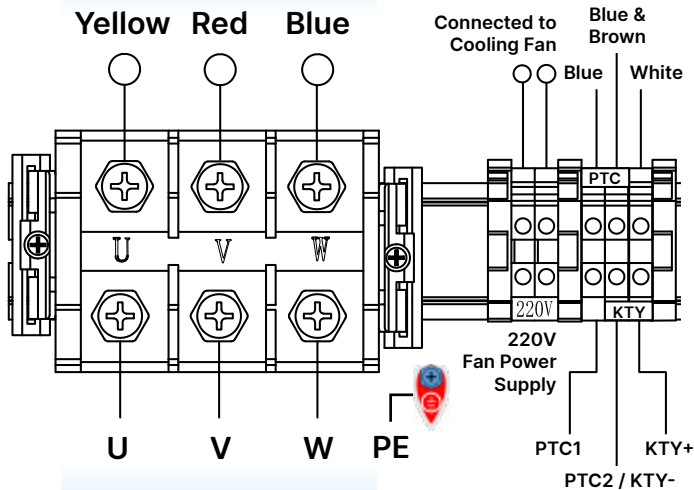
Model MSJ-		LA273AB48E	LA274AB48E	LA275AB48E
A	mm	647.5	701	754.5
B	mm	490	543.5	597
C	mm	330		
D	mm	170		
E	mm	Ø48j6		
F	mm	14		

Wiring: Servo Motors

Junction Box

Without Brake

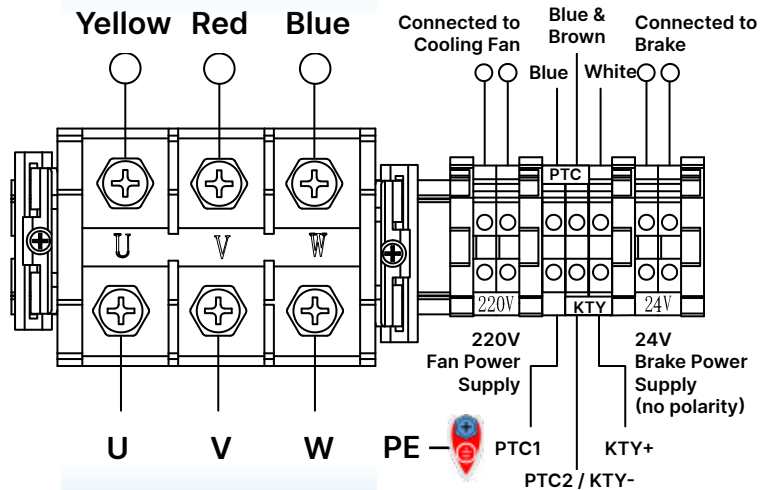
Connected to
Motor Winding



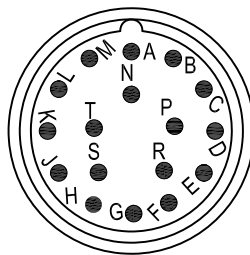
Connected to
Delta Drive System

With Brake

Connected to
Motor Winding



Connected to
Delta Drive System

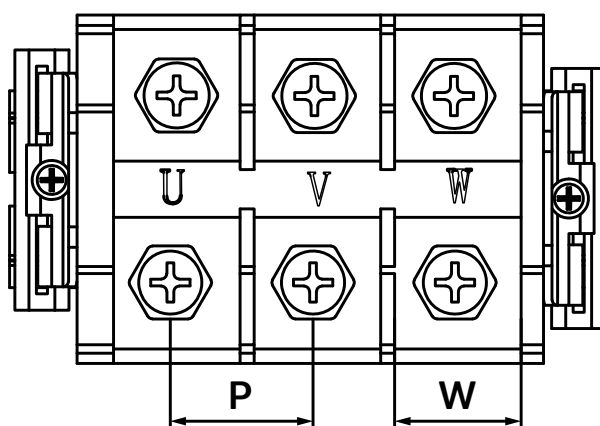


Motor Side Military Connector Pin Assignments

PIN	Definition	Color	PIN	Definition	Color
A	VCC	Red	K	-	-
B	GND	Black	L	-	-
C	VB (BAT+)	Brown	M	Shield	-
D	GND (BAT-)	Brown/Black	N	-	-
E	-	-	P	SD	Blue
F	-	-	R	$\overline{\text{SD}}$	Blue/Black
G	-	-	S	Case GND	Gray
H	-	-	T	-	-
J	-	-			

Mechanism information as follows. Please fasten screws with a hexagon socket.

Frame Size	Screw Size	P	W	Tightening Torque
		mm	mm	Nm
200 mm	M6	19	16.7	4
264 mm (< 55 kW)	M8	25	22.5	8
264 mm (> 55 kW)	M8	27	24	8



Motor Power Cables (U, V, M): Copper wires with heat resistance above 90°C are recommended

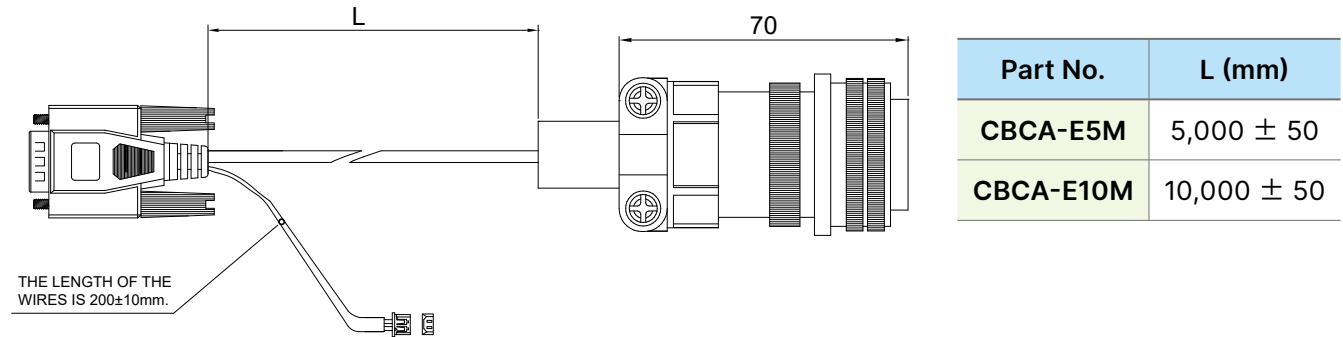
MSJ-LA20 □□□□□□		70E42E / 70B42E	1AE42E	1DE42E / 1DB42E	1GE42E / 1GB42E	2AE42E / 2AB42E	2DE42E / 2DB42E	2GE42E / 2GB42E
Min. Wire Gauge	AWG	11	10	8	7	7	6	5
	mm ²	4.2	5.3	8.4	10.5	10.5	13.5	17

MSJ-LA27 □□□□□□		3AE48E / 3AB48E	4AE48E / 4AB48E	5AE48E / 5AB48E	6AE48E	7AE48E	8AE48E
Min. Wire Gauge	AWG	4	3	2	2	1	0
	mm ²	21	27	33.5	33.5	42.5	53.5

* Power cables can be reduced by one level if using wires with heat resistance above 105°C and under good thermo dissipation conditions.

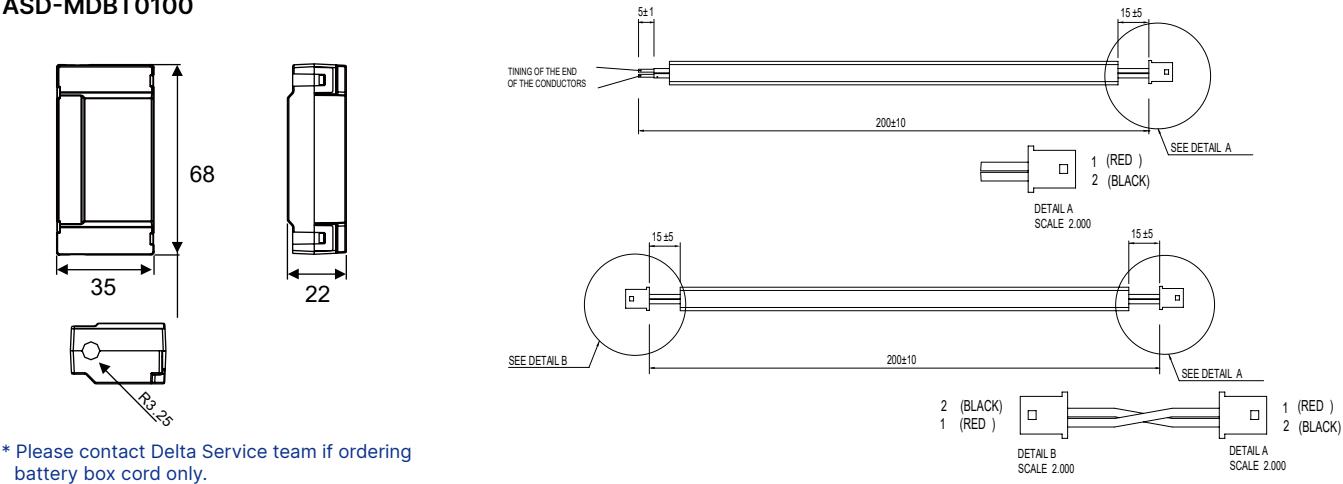
Accessories

Absolute Encoder Cables Unit: mm

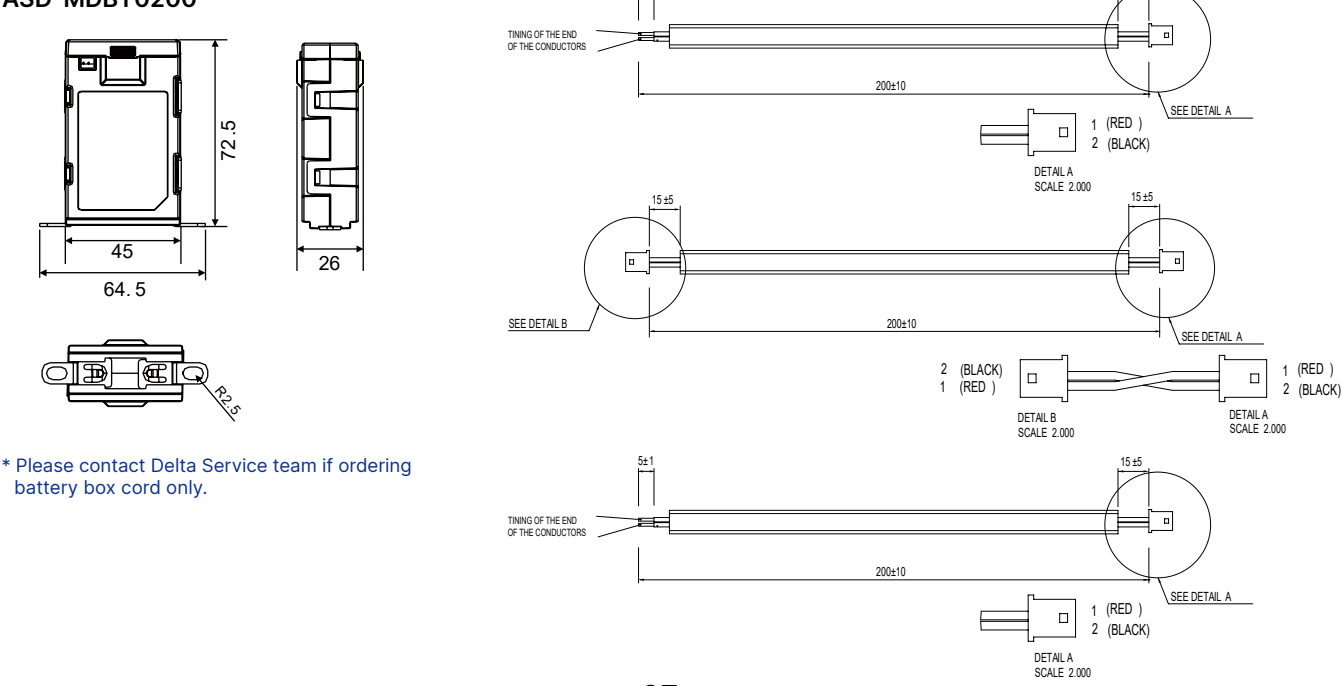


Battery Boxes with Batteries Unit: mm

Single Battery Box ASD-MDBT0100



Dual Battery Box ASD-MDBT0200



Ordering Information

Drive System

Inertia	Solution		Drive	Motor	Motion Control Card	EtherCAT Module	Braking Unit
	Power (kW)	Rated Torque (Nm)					
High Inertia	7	44.6	VFD110CH43A-21	MSJ-LA2070E42E	EMC-MC01	CMC-EC01	N/A
	10	63.7	VFD150CH43A-21	MSJ-LA201AE42E			N/A
	13	82.8	VFD150CH43A-21	MSJ-LA201DE42E MSJ-LA201DB42E			N/A
	16	102	VFD185CH43A-21	MSJ-LA201GE42E MSJ-LA201GB42E			N/A
	20	127	VFD220CH43A-21	MSJ-LA202AE42E MSJ-LA202AB42E			N/A
	23	146	VFD300CH43A-21	MSJ-LA202DE42E MSJ-LA202DB42E			N/A
	26	166	VFD300CH43A-21	MSJ-LA202GE42E MSJ-LA202GB42E			N/A
	30	191	VFD370CH43S-21	MSJ-LA273AE48E			VFDB4045
	40	255	VFD450CH43A-00	MSJ-LA274AE48E			VFDB4045
	50	318	VFD550CH43A-00	MSJ-LA275AE48E			VFDB4030x2
	60	382	VFD750CH43A-00	MSJ-LA276AE48E			VFDB4045x2
	70	446	VFD900CH43A-00	MSJ-LA277AE48E			VFDB4045x2
	80	510	VFD1100CH43A-00	MSJ-LA278AE48E			VFDB4110

Accessories

Item	Model
Absolute Encoder Cables (5m)	CBCA-E5M
Absolute Encoder Cables (10m)	CBCA-E10M
Battery Boxes with Batteries (Single)	ASD-MDBT0100
Battery Boxes with Batteries (Dual)	ASD-MDBT0200
Battery	ASD-CLBT0100

Global Operations

ASIA (Taiwan)



Taoyuan Technology Center (Green Building)



Taoyuan Plant 1



Tainan Plant (Diamond-rated Green Building)

ASIA (China)

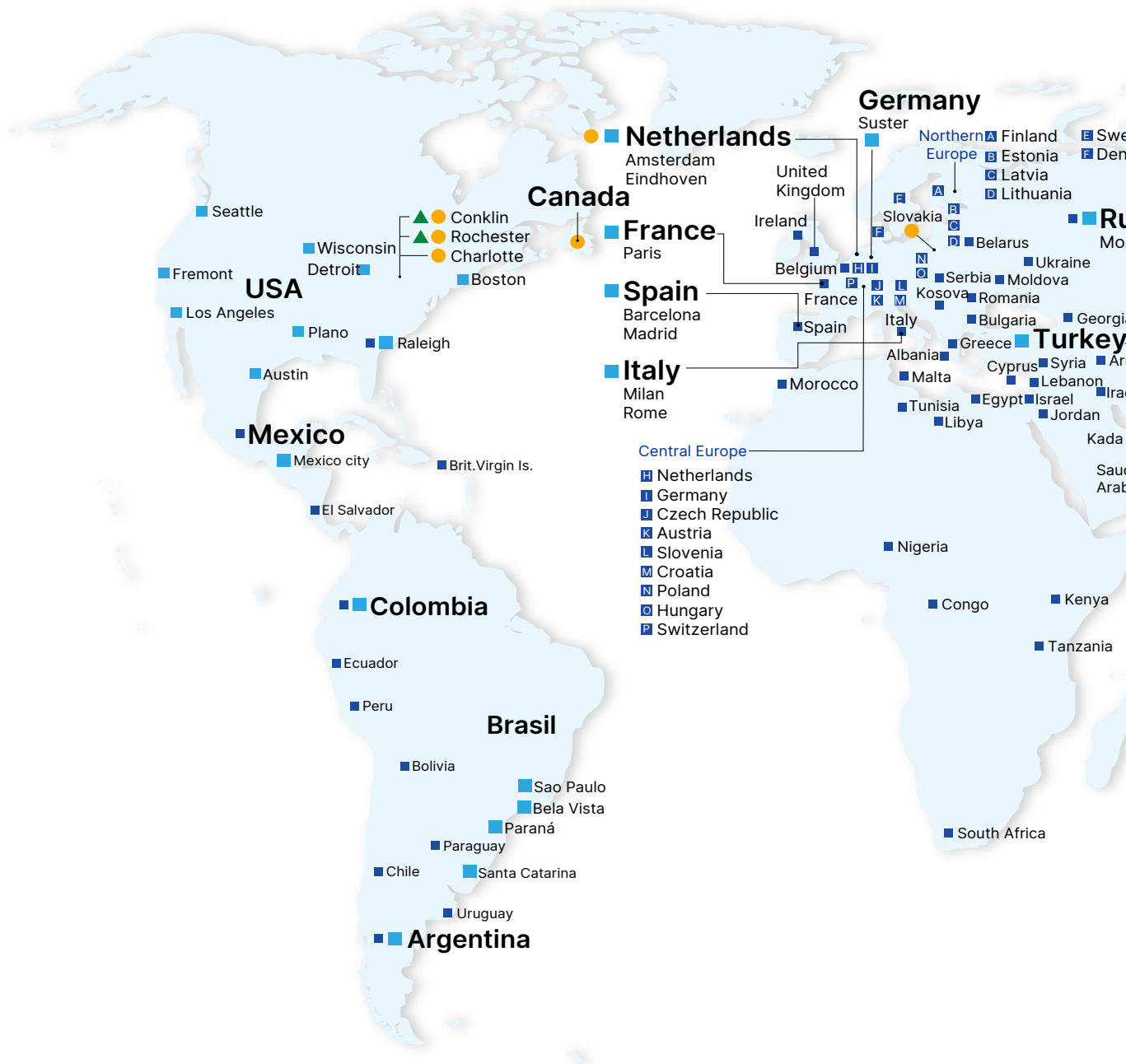


Wujiang Plant 3



Shanghai Office

▲ 10 Factories



ASIA (Japan)



Tokyo Office

ASIA (India)



Rudrapur Plant
(Green Building)

EUROPE



Amsterdam, the Netherlands

AMERICA

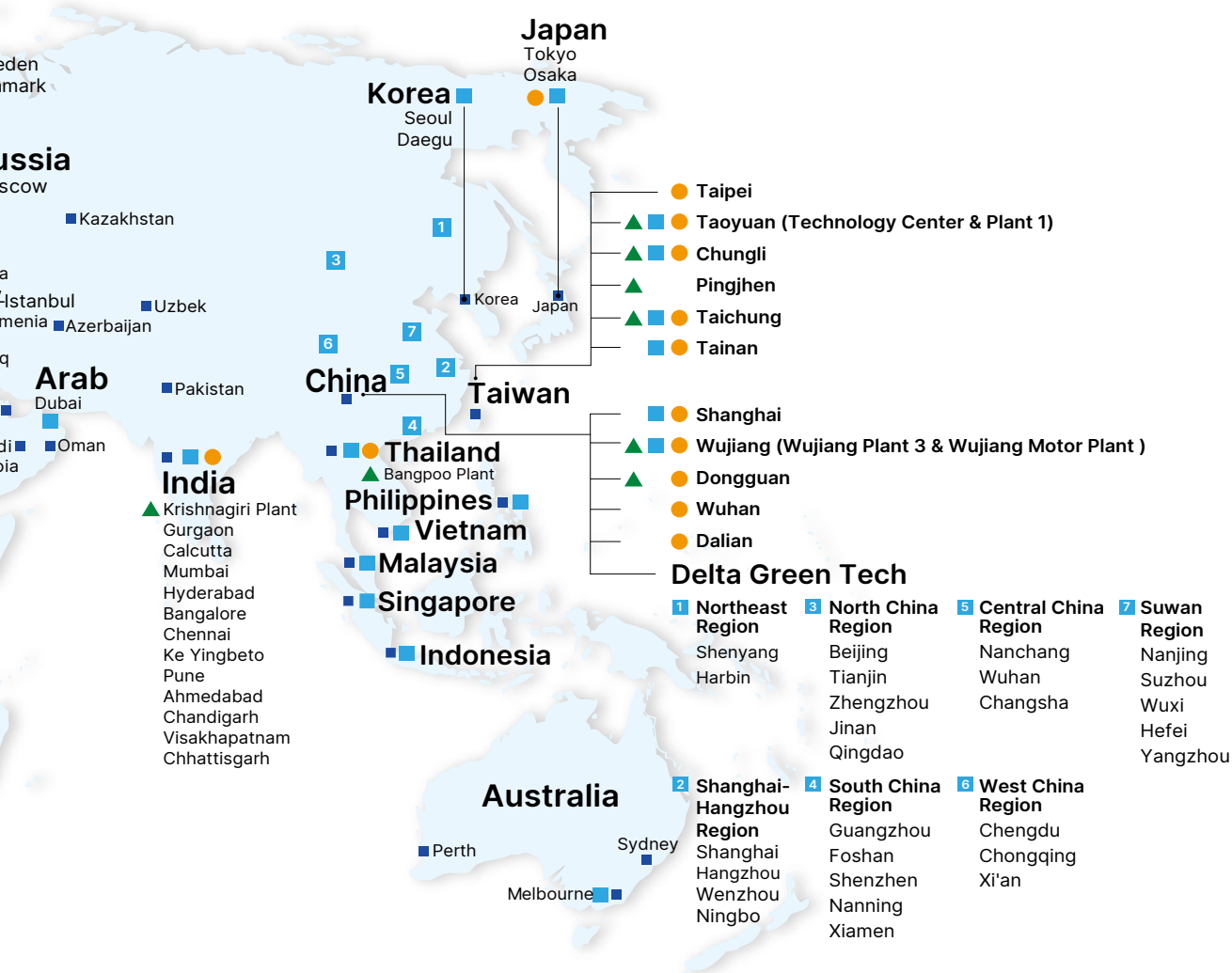


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