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



Automation for a Changing World

Delta Sensorless Vector Control Drives

CP2000 Series

For HVAC Drive Applications





WHY CP2000? IABU green technology

To fulfill Delta's mission "to provide innovative, clean and energy-efficient solutions for a better tomorrow", we are proud to introduce a sensorless vector control VFD which is made for pump and fan applications and HVAC systems.

With the best performance in the industry, this VFD is specially designed for related applications with an intelligent PID controller.

Functions such as sensorless vector control, multi-segment V/F control curve and soft start greatly improve the efficiency of the variable torque loads and constant horsepower loads.

Water Circulating Pumps Control

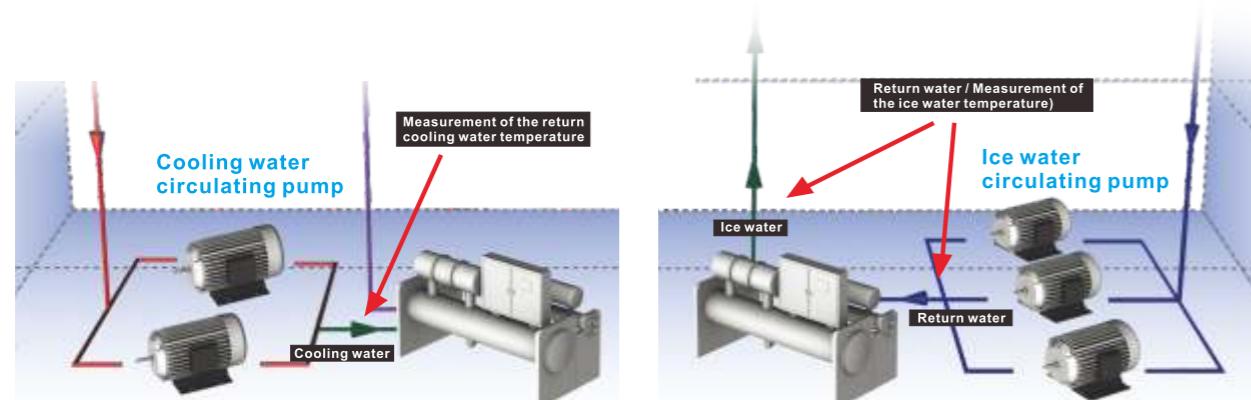


Figure 1: Multi-Pump Control

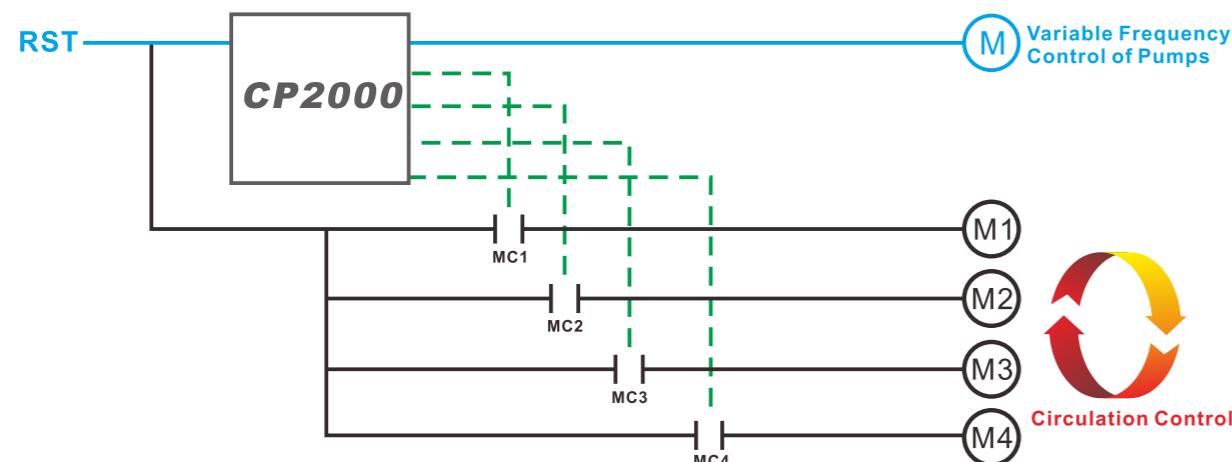


Figure 2: Fixed Quantity and Circulation Control of Pumps

Features

- 01 LCD keypad offers a user-friendly operation interface. The display screen can be defined by the user with TP-Editor soft.
- 02 Quick setting, user defined parameter management, and parameter copy functions make the installation fast and easy.
- 03 Modular design for flexible extension and easy maintenance.
- 04 Built-in BACnet and MODBUS RS-485. Various optional communication cards such as Profibus-DP, DeviceNet, MODBUS TCP, EtherNet-IP, and CANopen.
- 05 Long-life design.
- 06 The PCB (Printed Circuit Board) coating enhances reliability and durability.
- 07 Fire mode and Bypass functions provide safe operation in an emergency.
- 08 Useful functions for pump and fan applications, such as: PID control, sleep/wake up functions, flying start, and skip frequency.
- 09 Multi-pumps control functions, such as: fixed time, fixed quantity, circulating controls. The driver can control a maximum of eight pumps at the same time. An optional relay extension card is available depending on the pump quantity.
- 10 Built-in PLC 10K step and Real Time Clock.

Standard Models

Power range: 230V 0.75~90kW, 460V: 0.75~400kW

230V (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	
230V (HP)	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	
Frame Size	A					B			C			D		E			
460V (kW)	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90
460V (HP)	1	2	3	5	5	7.5	10	15	20	25	30	40	50	60	75	100	125
Frame Size	A					B			C			D		E			
460V (kW)	90	110	132	160	185	220	280	315	355	400							
460V (HP)	125	150	175	215	250	300	375	425	475	536							
Frame Size	E	F	G	H													

Advanced Drive Technology

High performance Variable Frequency Drive Technology
1.SVC Sensorless vector control
2.Dual rating design
(Light duty & Normal duty)
3.Excellent variable torque control



Modular Design
1.Hot plug LCD keypad
2.I/O extension card
3.Various communication card
4.Removable fans

Versatile Drive Control
1.Built-in Programmable Logic Controller
2.Built in brake unit*
3.Networking drive system
4.Auto energy saving design

Environmental Adaptability
1.50°C operation temperature
2.Built-in DC choke*
3.Coated circuit boards
4.Built-in EMI filter*
5.Global safety standards (CE/UL/cUL)

* Note: Please refer to the Product Specification

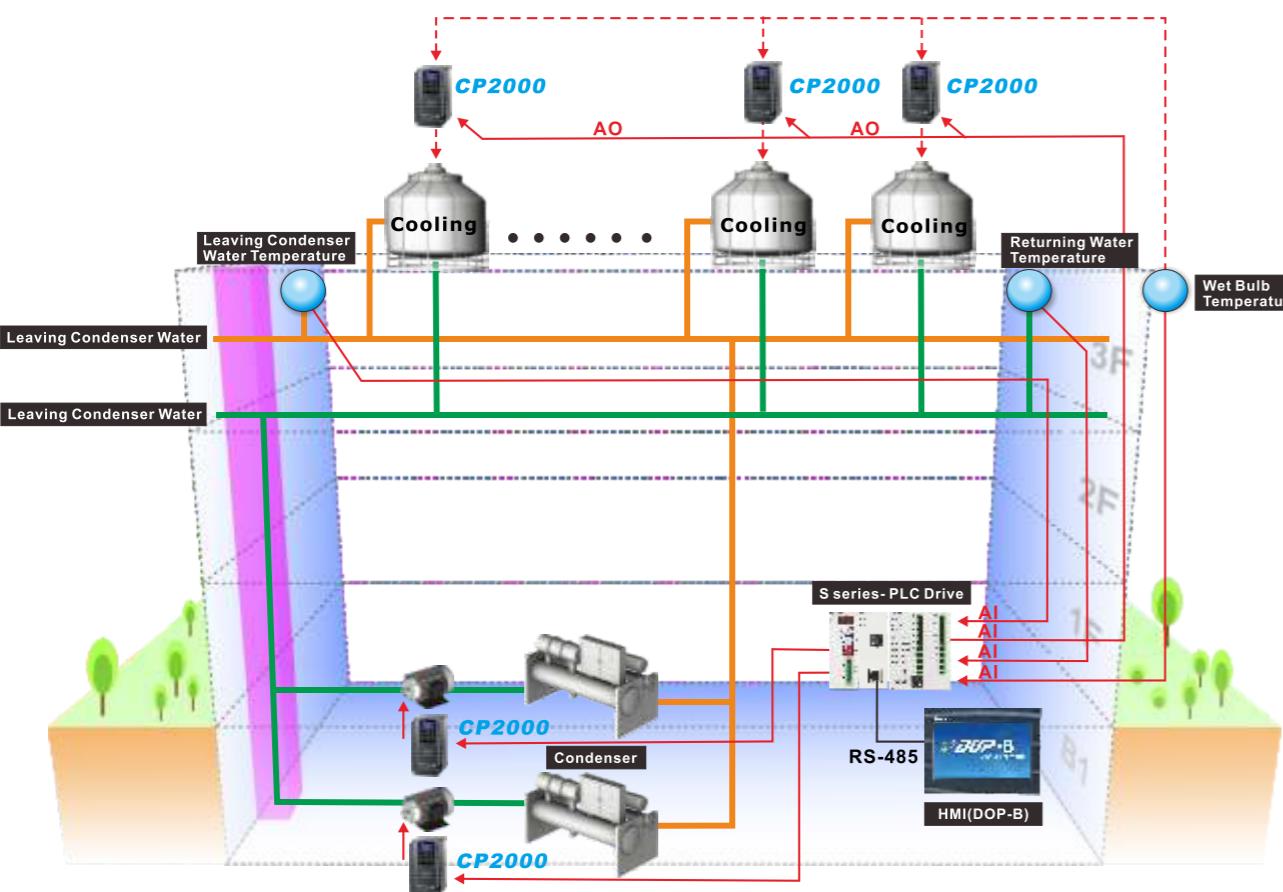
High-Speed Network

- Advanced Network Functions.
 - RS-485 built in: International Standard Communication Interface.
 - Built-in BACnet, MODBUS
- Various communication network cards and field bus cards are available.



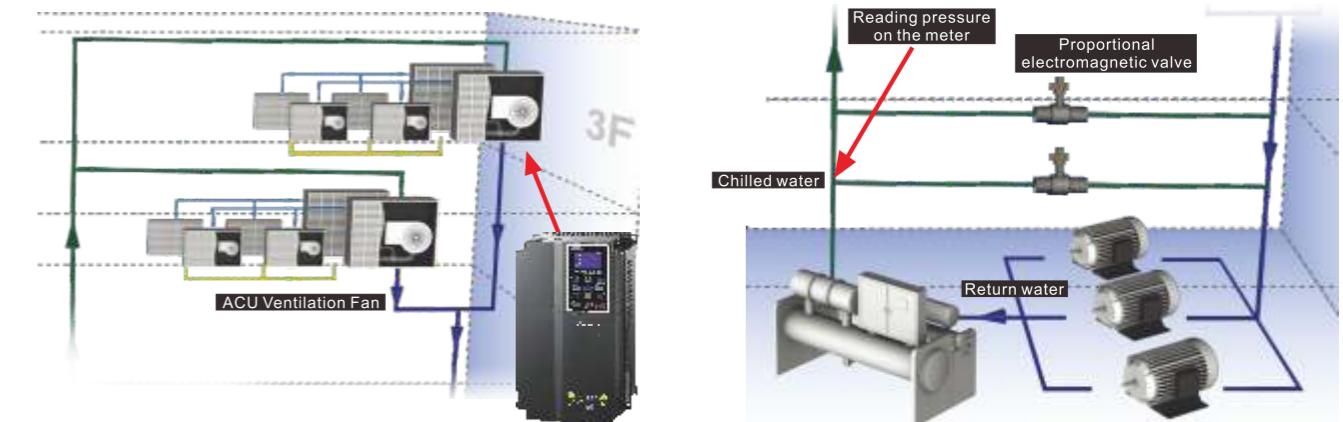
Features for Building Automation Applications

- The four-segment exponential response curve can adjust the input voltage to increase performance for variable torque loads applications, especially for pump and fan applications.
- Flying start and restart functions avoids a momentary power down provide the best operation for fan applications.
- Skip frequency function avoids motor vibration at a specific frequency band and protects the equipment.
- Low current protection protects the motor from load loss.
- Built-in BACnet lowers the cost of wiring for building automation.



Increases Motor Performance

- The sensorless vector control (SVC) and AUTO-TUNING functions increase motor performance for variable torque loads applications.
- Deceleration Energy Backup (DEB): when a power loss occurs the drive decelerates and stops the motor to protect the equipment.
- Optimal Acceleration/Deceleration function makes the motor run smoothly and reduces vibration during start and stop.
- Various control functions for saving energy, such as: PID control, sleep/wake up function, and auto energy saving mode.



Intelligent Programmable Logic Controller

- By connecting the built-in Delta PLC (programmable logic controller) to a network, you can easily use distributed control mode and independent operation to create an intelligent control space.
- The real time clock & calendar function allows you to program the PLC procedure, ON/OFF in chronological order, daylight saving time and more.



Modular Design

Modular design enhances drive and control. Depending on the requirements of system applications maintenance you can install input/output expansion cards, communication cards, hot plug LCD keypads, assembly terminal blocks and removable fans.



Designed for Environmental Adaptability

- Built-in DC choke*
- Built-in RFI filter
- Enhanced coating on the control board's PCB to ensure reliability of VFD in an adverse environment.
- Flange mounting: designed to completely separate the heat dissipating system and other electronic components. Its installation can disperse heat out of the VFD. Cooling fan method can blow cold air into aluminum heat sink. Both heat dissipating methods are efficient, choose the one that fits the working environment for the best heat dissipation results.

*Note: Please refer to the Product Specification



Operating Environment

DO NOT expose the AC motor drive to harsh environments, such as dust, direct sunlight, corrosive/ inflammable gasses humidity, liquid or vibrations. The salt in the air must be less than 0.01mg/cm² per year.

Environment	Installation location	IEC60364-1/IEC60664-1 Pollution degree 2, Indoor use only	
	Surrounding Temperature	Storage/ Transportation	-25°C ~ +70°C
		No-condensation, non-frozen	
	Rated Humidity	Operation	Max. 90%
		Storage/ Transportation	Max. 95%
		No condensed water	
	Air Pressure	Operation/ Storage	86 to 106 kPa
		Transportation	70 to 106 kPa
		IEC721-3-3	
	Pollution Level	Operation	Class 3C2 : Class 3S2
		Storage	Class 2C2 : Class 2S2
		Transportation	Class 1C2 : Class 1S2
	No concentrate		
	Altitude	Operation	If AC motor drive is installed at altitude 0~1000m, follow normal operation restriction. If it is installed at altitude 1000~3000m, decrease 2% of rated current or lower 0.5°C of temperature for every 100m increase in altitude. Maximum altitude for Corner Grounded is 2000m.
	Package Drop	Storage/ Transportation	ISTA procedure 1A(according to weight) IEC60068-2-31
	Vibration	1.0mm, peak to peak value range from 2Hz to 13.2 Hz; 0.7G~1.0G range from 13.2Hz to 55Hz; 1.0G range from 55Hz to 512 Hz. Complies with IEC 60068-2-6	
	Impact	IEC/EN 60068-2-27	
	Operation Position	Max. allowed offset angle±10° (under normal installation position)	10° → ← -10°

Specification for Operation Temperature and Protection Level

Model	Frame	Top cover	Conduit Box	Protection Level	Operation Temperature
VFDxxxxCP23A-21 VFDxxxxCP43A-21 VFDxxxxCP4EA-21 VFDxxxxCP43C-21	Frame A~C 230V: 0.75~30kW 460V: 0.75~37kW	Remove top cover	Standard conduit plate	IP20/UL Open Type	ND: -10°C ~50°C LD: -10°C ~40°C
		Standard with top cover		IP20/UL Type1/NEMA1	ND: -10°C ~40°C LD: -10°C ~40°C
	Frame D~H 230V: above 37kW 460V: above 45kW	N/A	With conduit box	IP20/UL Type1/NEMA1	ND: -10°C ~40°C LD: -10°C ~40°C
VFDxxxxCP23A-00 VFDxxxxCP43A-00 VFDxxxxCP43C-00	Frame D~H 230V: above 37kW 460V: above 45kW	N/A	With conduit box	IP00 IP20/UL Open Type	ND: -10°C ~50°C LD: -10°C ~40°C (ND=Normal Duty LD=Light Duty)
				Only the circled area is IP00, others parts are IP20.	

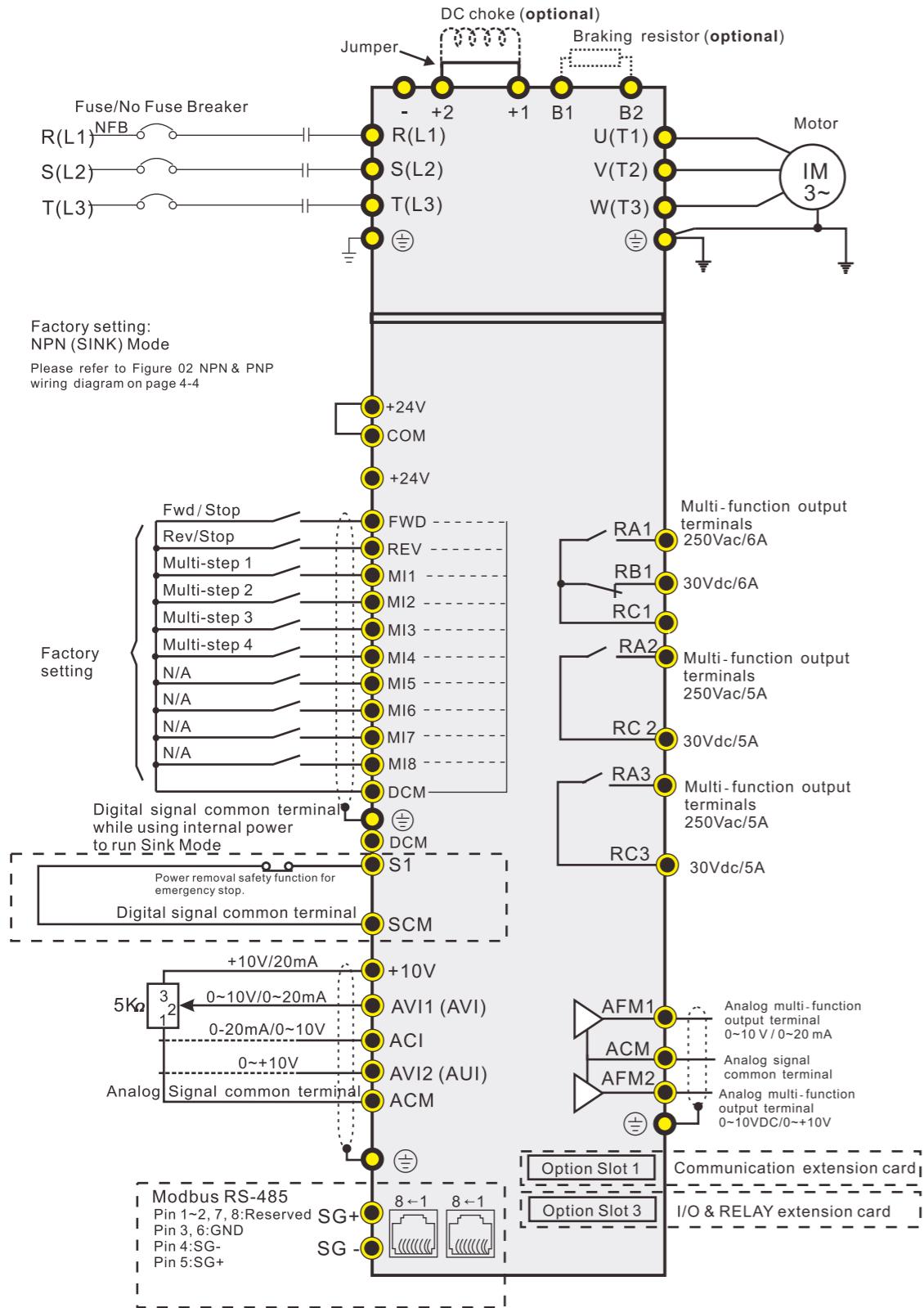
Product Specifications

230V																												
		Frame Size		A		B		C		D		E																
	Model : VFD-CP23A-	007	015	022	037	055	075	110	150	185	220	300	370	450	550	750	900											
Output Rating	Rated Output Capacity (kVA)	2.0	3.0	4.0	6.0	8.4	12	18	24	30	36	42	58	72	86	110	128											
Light Duty	Rated Output Current (A)	5	7.5	10	15	21	31	46	61	75	90	105	146	180	215	276	322											
	Applicable Motor Output(kW)	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90											
	Applicable Motor Output(HP)	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125											
	Overload tolerance	120% of rated current for 1 minute																										
	Max. output frequency (Hz)	600.00Hz										400.00Hz																
Normal Duty	Carrier Frequency (kHz)	2~15kHz(8kHz)							2~10kHz(6kHz)				2~9kHz(4kHz)															
	Rated Output Capacity (kVA)	1.8	2.0	3.2	4.4	6.8	10	13	20	26	30	36	48	58	72	86	102											
	Rated Output Current (A)	4.6	5	8	11	17	25	33	49	65	75	90	120	146	180	215	255											
	Applicable Motor Output(kW)	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75											
	Applicable Motor Output(HP)	0.5	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100											
	Overload tolerance	120% of rated current for 1 minute; 160% of rated current for 3 seconds																										
	Max. output frequency (Hz)	600.00Hz										400.00Hz																
	Carrier Frequency (kHz)	2~15kHz(8kHz)							2~10kHz(6kHz)				2~9kHz(4kHz)															
Input Rating	Input Current (A) Light Duty	6.4	9.6	15	22	25	35	50	65	83	100	116	146	180	215	276	322											
	Input Current (A) Normal Duty	3.9	6.4	12	16	20	28	36	52	72	83	99	124	143	171	206	245											
	Rated Voltage/Frequency	3-Phase AC 200V~240V (-15%~+10%), 50/60Hz																										
	Operating Voltage Range	170~265Vac																										
	Frequency Tolerance	47~63Hz																										
	Cooling method	Natural Cooling	Fan Cooling																									
	Braking Chopper	Frame A, B, C Built-in																										
	DC choke	Frame A, B, C Optional																										
	EMI Filter	Optional																										

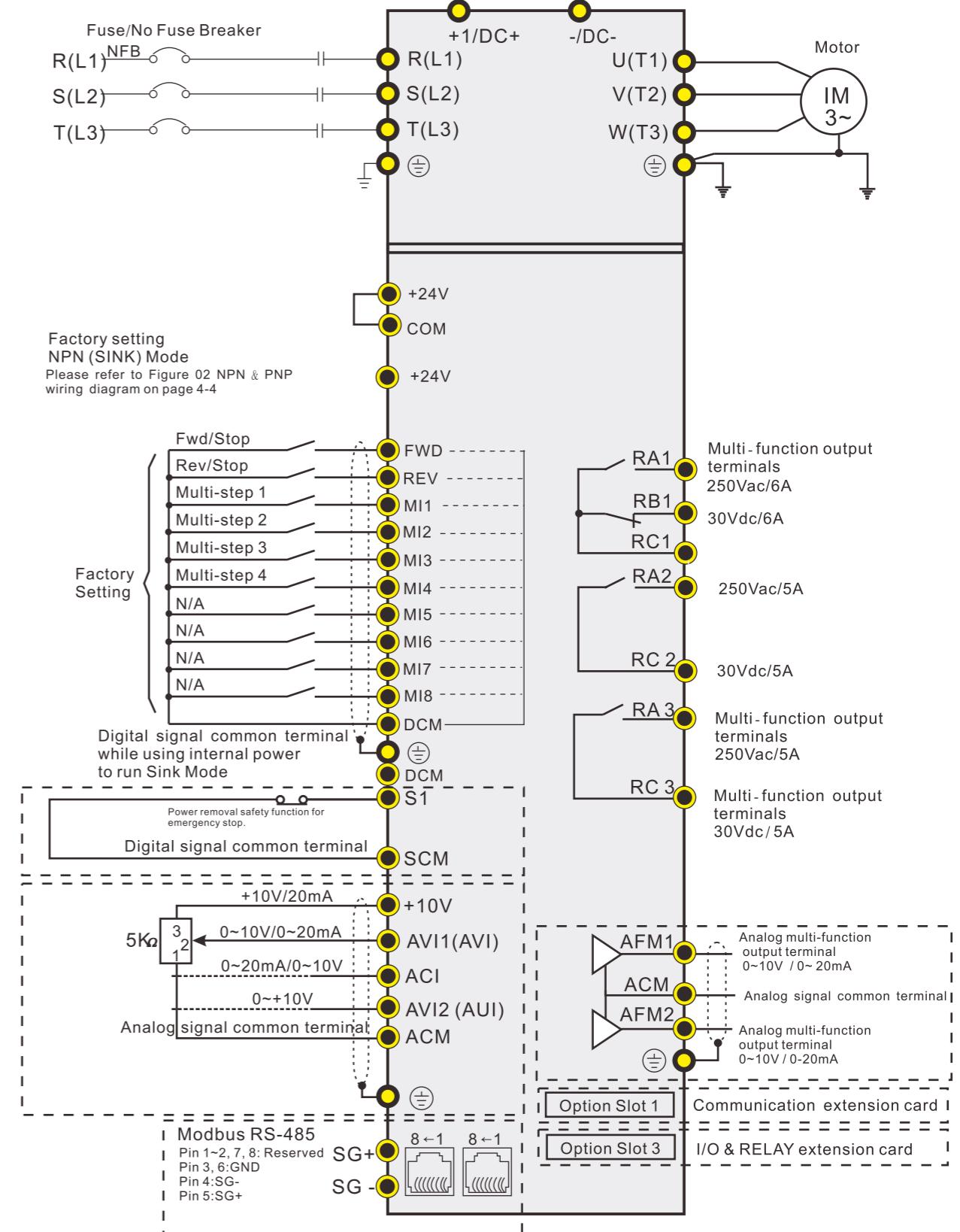
460V																
		Frame		A		B		C								
	Models VFD-CP43A-;	007	015	022	037	040	055	075	110	150	185	220	300	370		
Output Rating	VFD-CP4EA-;															
Light Duty	Rated Output Capacity(kVA)	2.4	2.9	4.0	6.0	8.4	9.6	11.2	18	24	29	36	45	57		
	Rated Output Current (A)	3	3.7	5	7.5	10.5	12	14	22.5	30	36	45	56	72		
	Applicable Motor Output(kW)	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11	15	18.5	22	30	37		
	Applicable Motor Output(HP)	1	2	3	5	5	7.5	10	15	20	25	30	40	50		
	Overload tolerance	120% of rated current for 1 minute														
	Max. output frequency(Hz)	600.00Hz														
	Carrier Frequency(kHz)	2~15kHz(8kHz)							2~10kHz(6kHz)				2~9kHz(4kHz)			
Normal Duty	Rated Output Capacity(kVA)	2.2	2.4	3.2	4.8	7.2	8.4	10	14	19	25	30	36	48		
	Rated Output Current (A)	2.8	3.0	4.0	6.0	9.0	10.5	12	18	24	32	38	45	60		
	Applicable Motor Output(kW)	0.4	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11	15	18.5	22	30		
	Applicable Motor Output(HP)	0.5	1	2	3	5	5	7.5	10	15	20	25	30	40		
	Overload tolerance	120% of rated current for 1 minute; 160% of rated current for 3 seconds														
	Max. output frequency(Hz)	600.00Hz														
	Carrier Frequency(kHz)	2~15kHz(8kHz)							2~10kHz(6kHz)				2~9kHz(4kHz)			
Input Rating	Input Current (A) Light Duty	4.3	5.4	7.4	11	16	18	20	25	33	39	47	58	76		
	Input Current (A) Normal Duty	3.5	4.3	5.9	8.7	14	15.5	17	20	26	35	40	47	63		
	Rated Voltage/Frequency	3-Phase AC 380V~480V (-15%~+10%), 50/60Hz														
	Operating Voltage Range	323~528Vac														
	Frequency Tolerance	47~63Hz														
	Cooling method	Natural Cooling	Fan Cooling													

Wiring

Wiring Diagram for Frame A~C, 3-phase power is provided



Wiring Diagram for Frame D, 3-phase power is provided



● Main circuit(power) terminals

● Control terminals

○ Shielded leads & cables

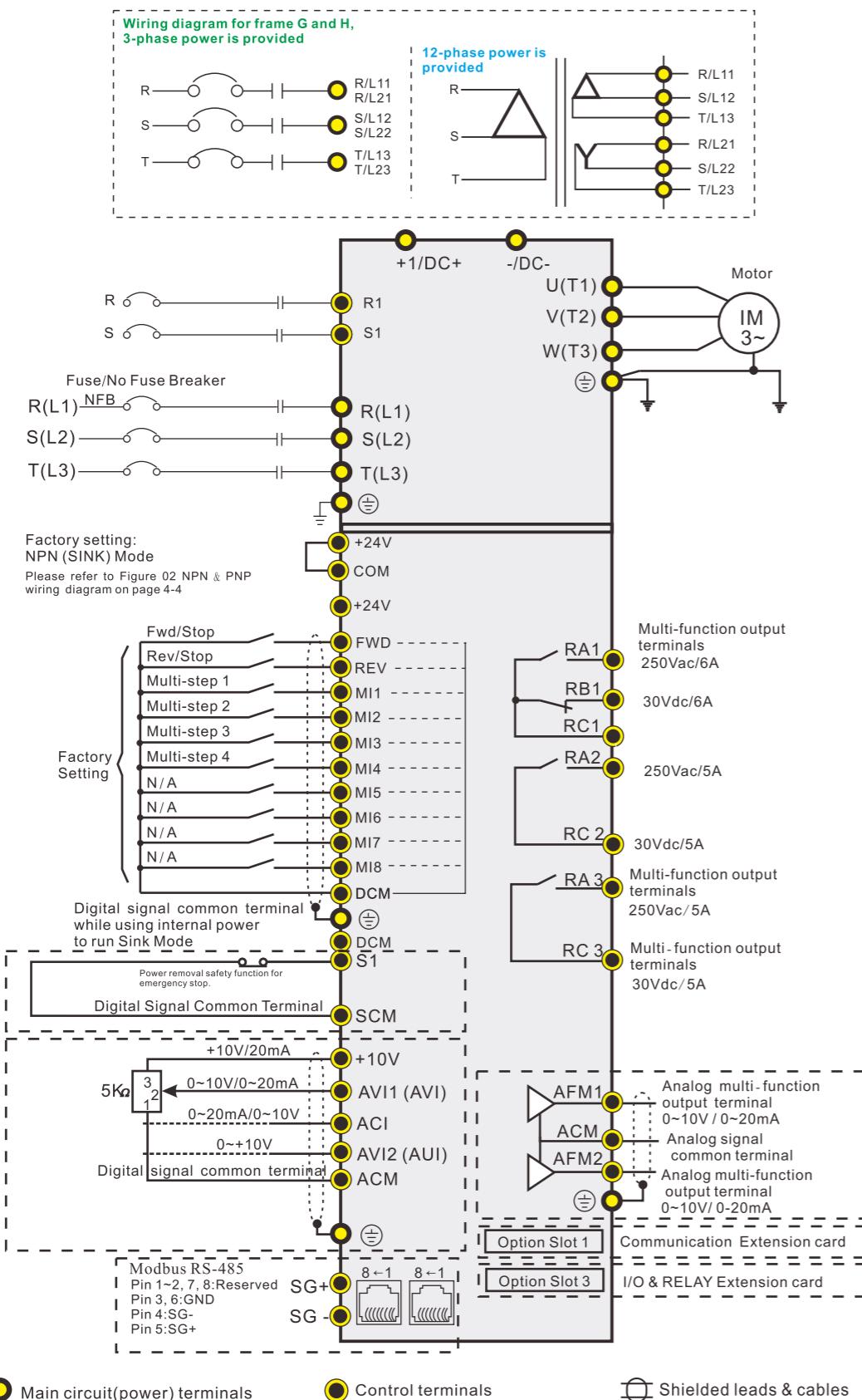
● Main circuit(power) terminals

● Control terminals

○ Shielded leads & cables

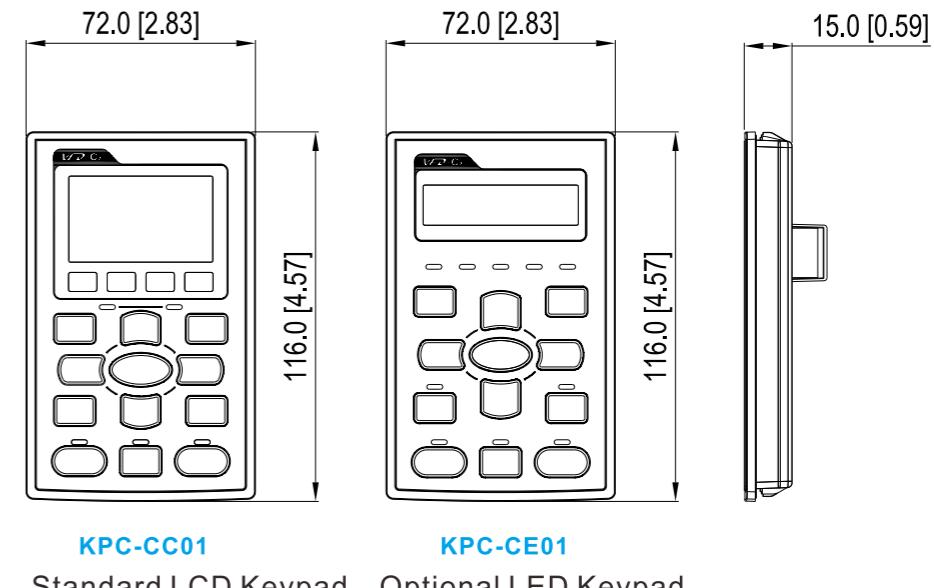
Wiring

Wiring diagram for frame E and above, 3-phase power is provided



Dimensions

Digital Keypad



Frame A

MODEL

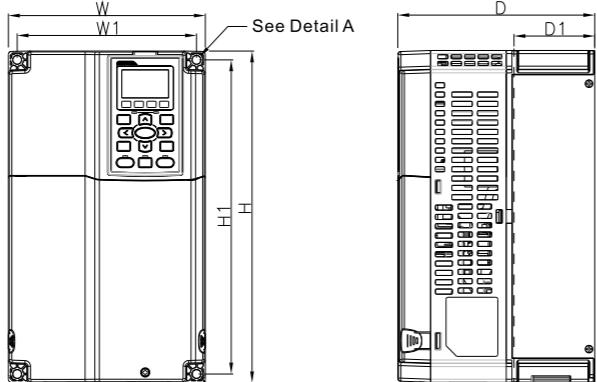
VFD007CP23A-21	VFD055CP43A-21
VFD015CP23A-21	VFD075CP43A-21
VFD022CP23A-21	VFD007CP4EA-21
VFD037CP23A-21	VFD015CP4EA-21
VFD055CP23A-21	VFD022CP4EA-21
VFD007CP43A-21	VFD037CP4EA-21
VFD015CP43A-21	VFD040CP4EA-21
VFD022CP43A-21	VFD055CP4EA-21
VFD037CP43A-21	VFD075CP4EA-21
VFD040CP43A-21	

Frame	W	H	D	W1	H1	D1*	S1	Ø1	Ø2	Ø3
A1	mm inch	130.0 [5.12]	250.0 [9.84]	170.0 [6.69]	116.0 [4.57]	236.0 [9.29]	45.8 [1.80]	6.2 [0.24]	22.2 [0.87]	34.0 [1.34]

D1* : Flange mounting

Dimensions

■ Frame B

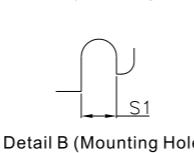
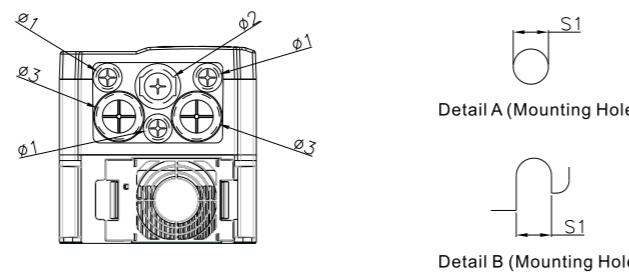


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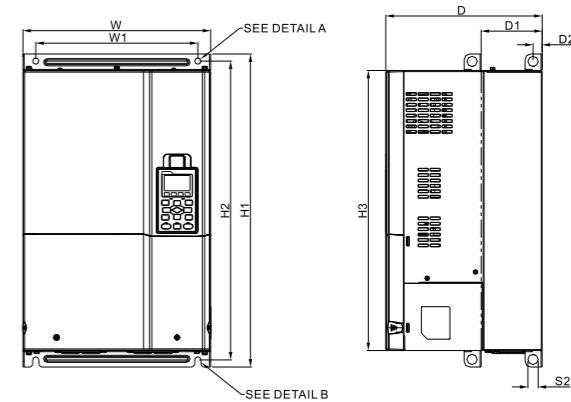
VFD075CP23A-21
VFD110CP23A-21
VFD150CP23A-21
VFD110CP43A-21
VFD150CP43A-21
VFD185CP43A-21
VFD110CP4EA-21
VFD150CP4EA-21
VFD185CP4EA-21

Frame	W	H	D	W1	H1	D1*	S1	Ø1	Ø2	Ø3	
B1	mm inch	190.0 7.48	320.0 12.60	190.0 7.48	173.0 6.81	303.0 11.93	77.9 3.07	8.5 0.33	22.2 0.87	34.0 1.34	28.0 1.10

Unit : mm[inch]



■ Frame D1

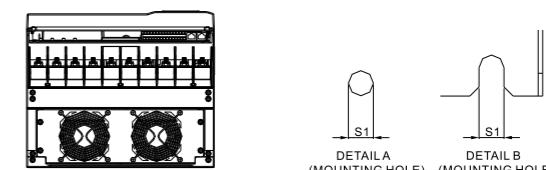


MODEL

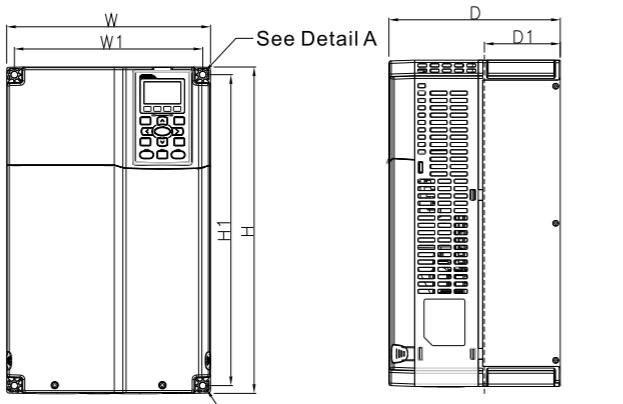
VFD370CP23A-00
VFD450CP23A-00
VFD450CP43A-00
VFD750CP43A-00
VFD900CP43A-00

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

Unit : mm[inch]



■ Frame C

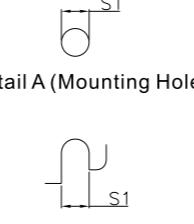
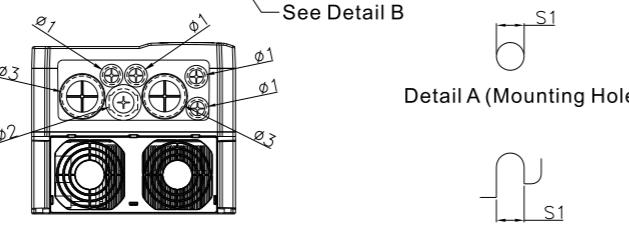


MODEL

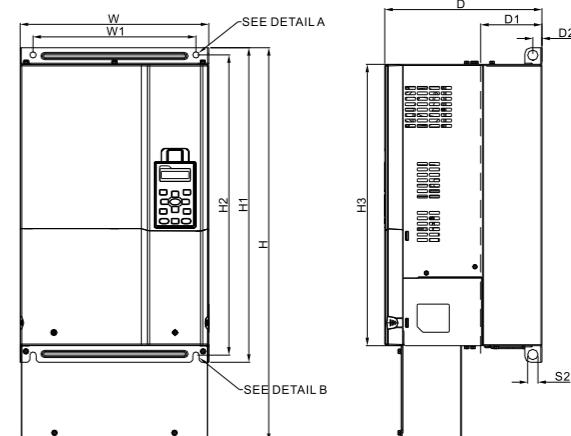
VFD185CP23A-21
VFD220CP23A-21
VFD300CP23A-21
VFD220CP43A-21
VFD300CP43A-21
VFD370CP43A-21
VFD220CP4EA-21
VFD300CP4EA-21
VFD370CP4EA-21

Frame	W	H	D	W1	H1	D1*	S1	Ø1	Ø2	Ø3	
C1	mm inch	250.0 9.84	400.0 15.75	210.0 8.27	231.0 9.09	381.0 15.00	92.9 3.66	8.5 0.33	22.2 0.87	34.0 1.34	50.0 1.97

Unit : mm[inch]



■ Frame D2

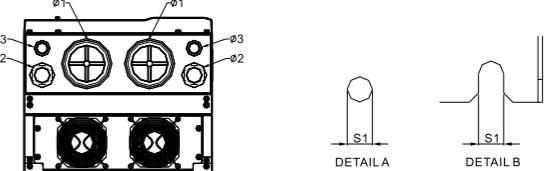


MODEL

VFD370CP23A-21
VFD450CP23A-21
VFD450CP43A-21
VFD750CP43A-21
VFD900CP43A-21

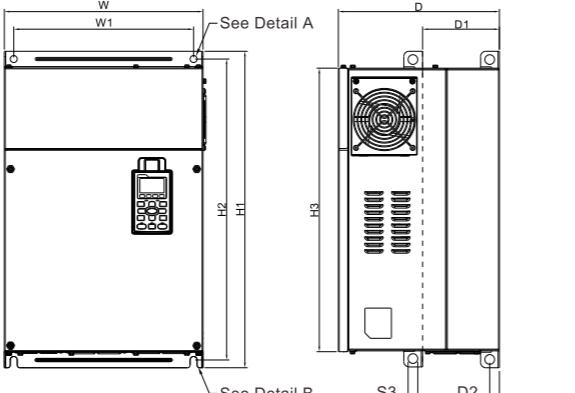
Frame	W	H	D	W1	H1	H2	H3	D1*	D2	S1	S2	Ø1	Ø2	Ø3	
D1	mm inch	330.0 [12.99]	688.3 [27.10]	275.0 [10.83]	285.0 [11.22]	550.0 [21.65]	525.0 [20.67]	492.0 [19.37]	107.2 [4.22]	16.0 [0.63]	11.0 [0.43]	18.0 [0.71]	76.2 [3.00]	34.0 [1.34]	22.0 [0.87]

Unit : mm[inch]



Dimensions

■ Frame E1

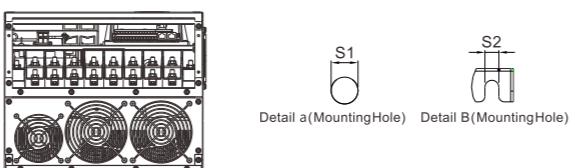


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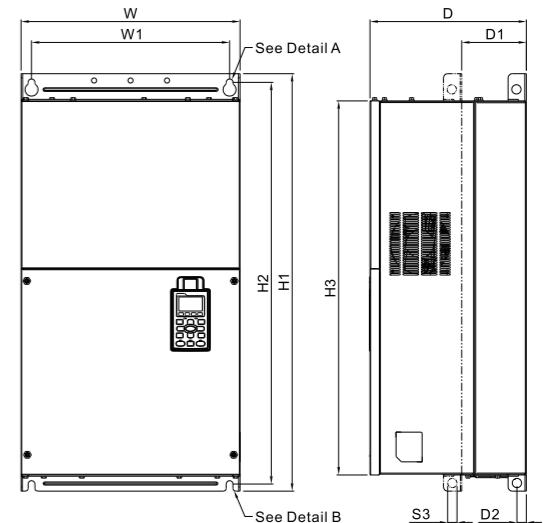
VFD550CP23A-00
VFD750CP23A-00
VFD900CP23A-00
VFD1100CP43A-00
VFD1320CP43A-00

Frame	W	H	D	W1	H1	H2	H3	D1*	D2	S1, S2	S3	Ø1	Ø2	Ø3
E1	mm inch	370.0 [14.57]	-	300.0 [11.81]	335.0 [13.19]	589 [23.19]	560.0 [22.05]	528.0 [20.80]	143.0 [5.63]	18.0 [0.71]	13.0 [0.51]	18.0 [0.71]	-	-

Unit : mm[inch]



■ Frame F1



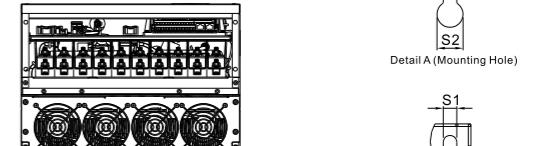
MODEL

VFD1600CP43A-00
VFD1850CP43A-00

Unit : mm[inch]

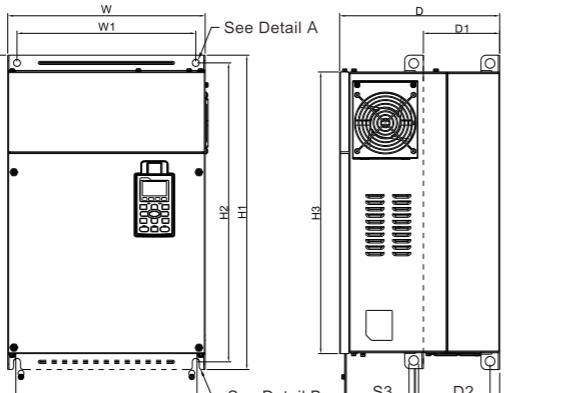
Frame	W	H	D	W1	
F1	mm inch	420.0 [16.54]	-	300.0 [11.81]	380.0 [14.96]

Frame	H1	H2	H3	D1*	D2	S1	S2	S3	Ø1	Ø2	Ø3
F1	mm inch	800.0 [31.50]	770.0 [30.32]	717.0 [28.23]	124.0 [4.88]	18.0 [0.71]	13.0 [0.51]	25.0 [0.98]	18.0 [0.71]	92.0 [3.62]	35.0 [1.38]



D1* : Flange mounting

■ Frame E2



MODEL

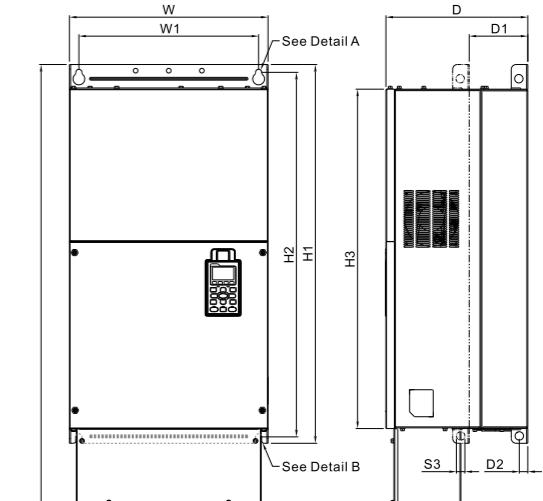
VFD550CP23A-21
VFD750CP23A-21
VFD900CP23A-21
VFD1100CP43A-21
VFD1320CP43A-21

Frame	W	H	D	W1	H1	H2	H3	D1*	D2	S1, S2	S3	Ø1	Ø2	Ø3	
E2	mm inch	370.0 [14.57]	715.8 [28.18]	300.0 [11.81]	335.0 [13.19]	589 [23.19]	560.0 [22.05]	528.0 [20.80]	143.0 [5.63]	18.0 [0.71]	13.0 [0.51]	18.0 [0.71]	22.0 [0.87]	34.0 [1.34]	92.0 [3.62]

Unit : mm[inch]



■ Frame F2



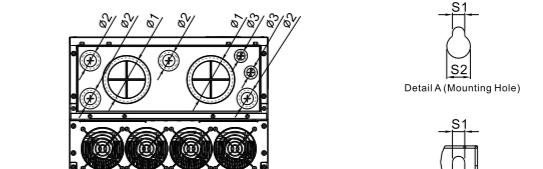
MODEL

VFD1600CP43A-21
VFD1850CP43A-21

Unit : mm[inch]

Frame	W	H	D	W1	
F2	mm inch	420.0 [16.54]	940.0 [37.00]	300.0 [11.81]	380.0 [14.96]

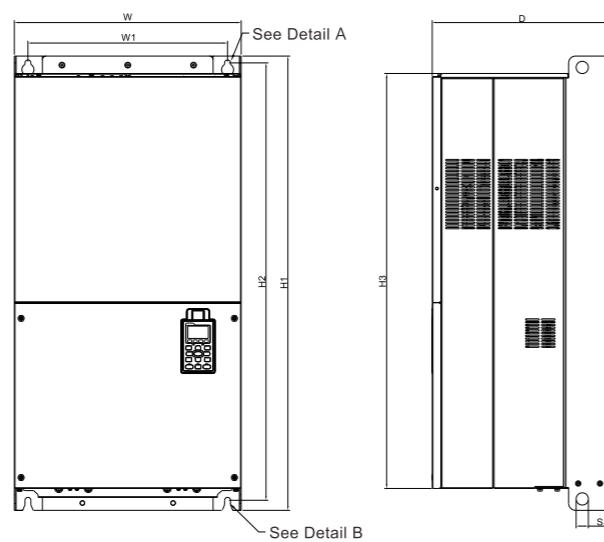
Frame	H1	H2	H3	D1*	D2	S1	S2	S3	Ø1	Ø2	Ø3
F2	mm inch	800.0 [31.50]	770.0 [30.32]	717.0 [28.23]	124.0 [4.88]	18.0 [0.71]	13.0 [0.51]	25.0 [0.98]	18.0 [0.71]	92.0 [3.62]	35.0 [1.38]



D1* : Flange mounting

Dimensions

■ Frame G1



MODEL

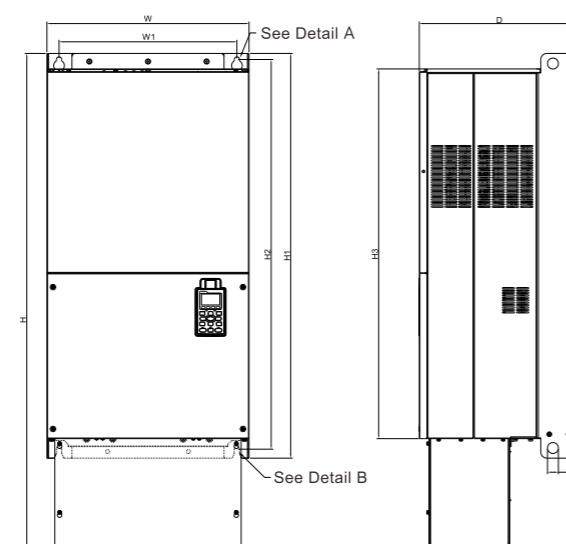
VFD2200CP43A-00
VFD2800CP43A-00

Unit : mm[inch]

Frame	W	H	D	
G1	mm inch	500.0 [19.69]	-	397.0 [15.63]

Frame	W1	H1	H2	H3	S1	S2	S3	Ø 1	Ø 2	Ø 3
G1	mm inch	440.0 [217.32]	1000.0 [39.37]	963.0 [37.91]	913.6 [35.97]	13.0 [0.51]	26.5 [1.04]	27.0 [1.06]	-	-

■ Frame G2



MODEL

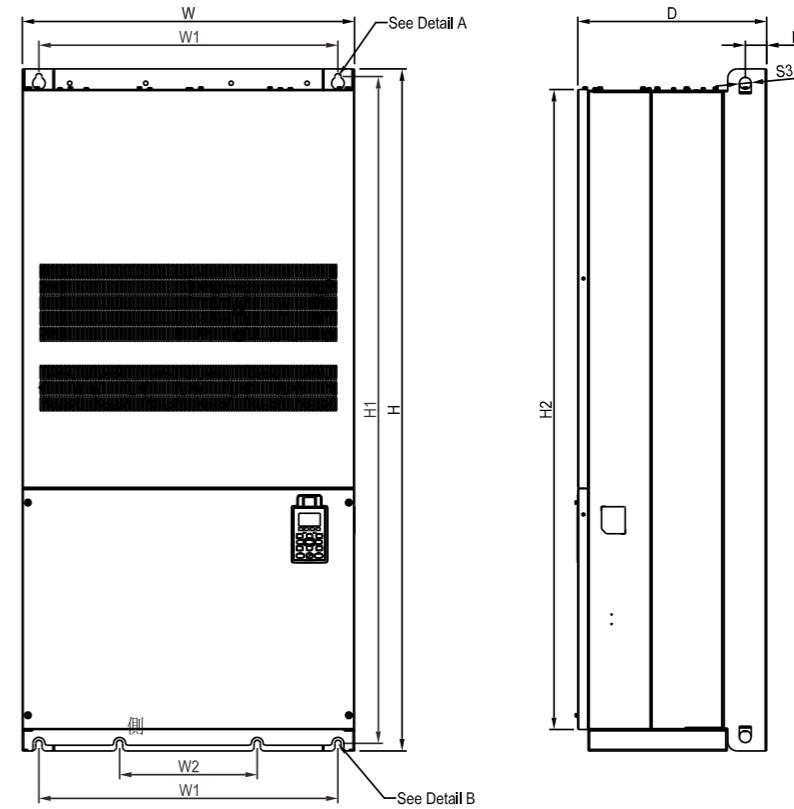
VFD2200CP43A-21
VFD2800CP43A-21

Unit : mm[inch]

Frame	W	H	D	
G2	mm inch	500.0 [19.69]	1240.2 [48.83]	397.0 [15.63]

Frame	W1	H1	H2	H3	S1	S2	S3	Ø 1	Ø 2	Ø 3	
G2	mm inch	440.0 [217.32]	1000.0 [39.37]	963.0 [37.91]	913.6 [35.97]	13.0 [0.51]	26.5 [1.04]	27.0 [1.06]	22.0 [0.87]	34.0 [1.34]	117.5 [4.63]

■ Frame H1



MODEL

VFD3150CP43A-00
VFD3550CP43A-00
VFD4000CP43A-00

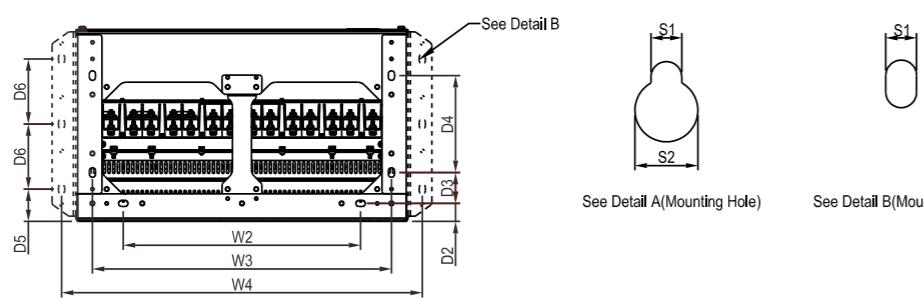
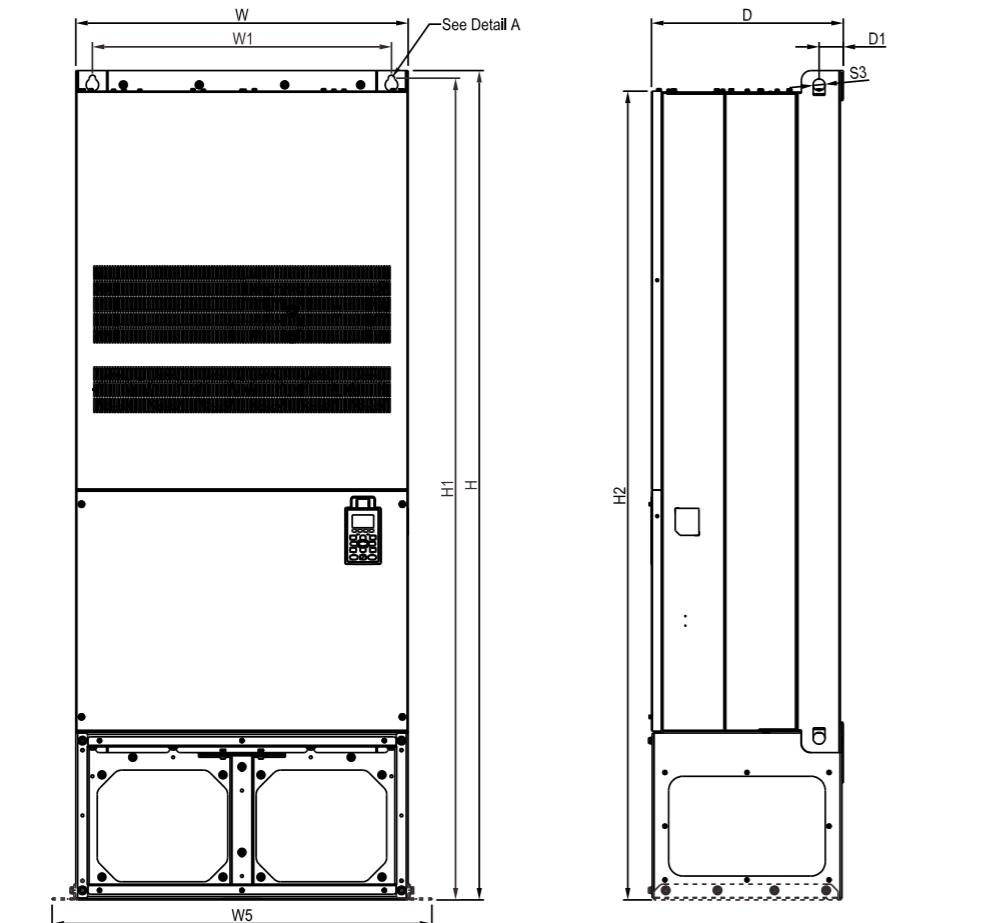
Unit : mm[inch]

Frame	W	H	D	W1	W2	W3	W4	W5	W6	H1	H2	H3	H4	
H1	mm inch	700.0 [27.56]	-	398.0 [15.67]	-	630.0 [24.80]	290.0 [11.42]	-	-	-	-	1435.0 [56.50]	1403.0 [55.24]	-

Frame	H5	D1	D2	D3	D4	D5	D6	S1	S2	S3	Ø 1	Ø 2	Ø 3
H1	mm inch	1346.6 [53.02]	45.0 [1.77]	-	-	-	-	13.0 [0.51]	26.5 [1.04]	25.0 [0.98]	-	-	-

Dimensions

■ Frame H2



MODEL

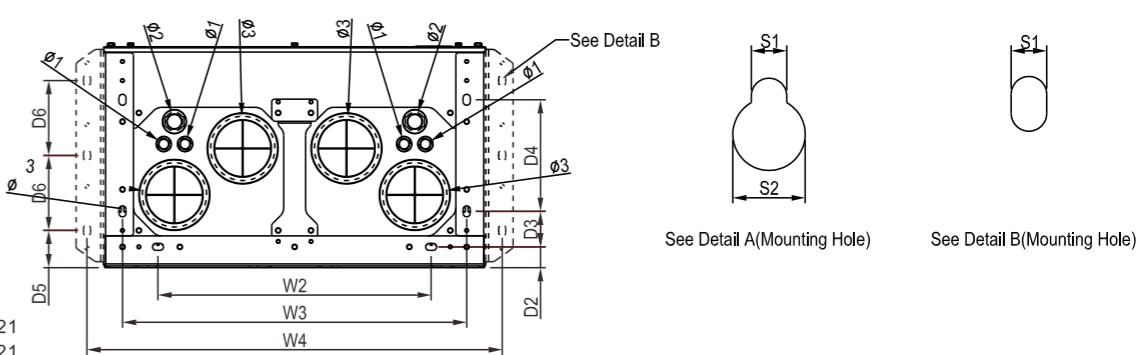
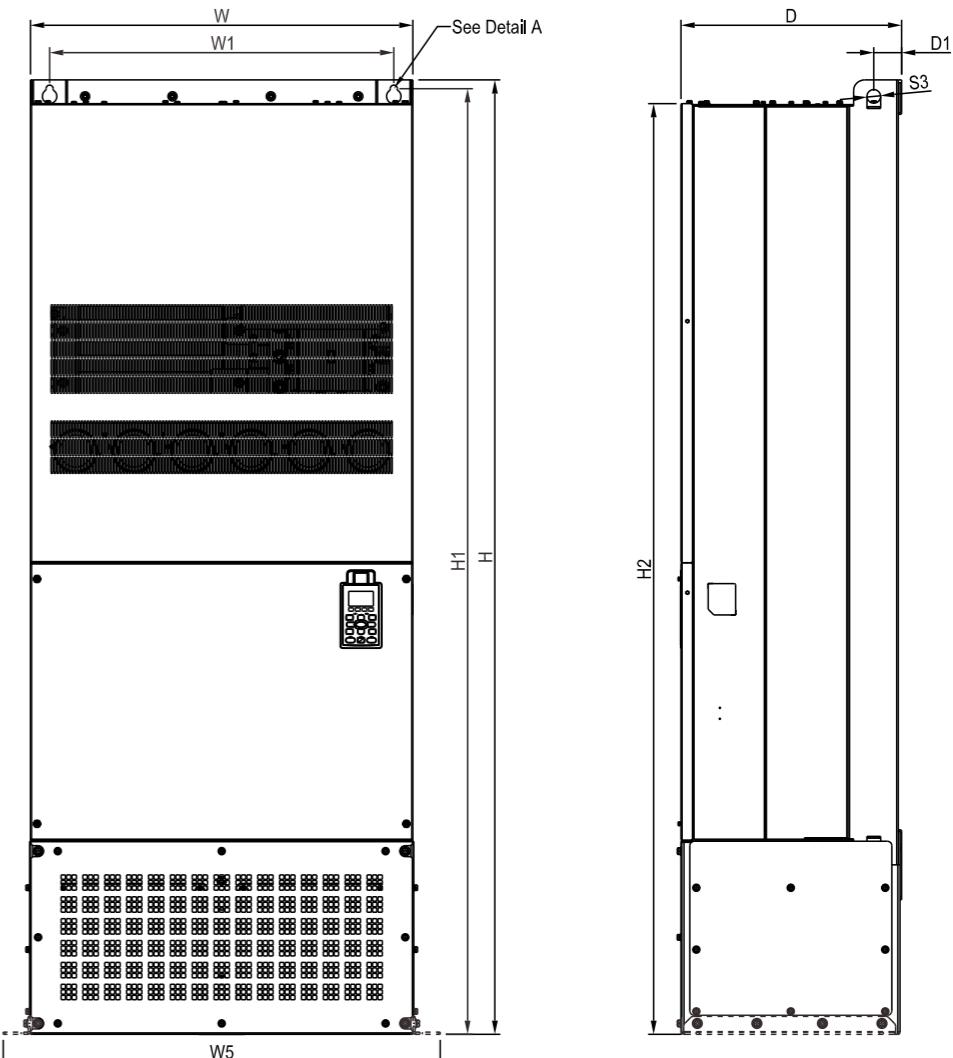
VFD3150CP43C-00
VFD3550CP43C-00
VFD4000CP43C-00

Unit : mm[inch]

Frame	W	H	D	W1	W2	W3	W4	W5	W6	H1	H2	H3	H4	
H2	mm inch	700.0 [27.56]	1745.0 [68.70]	404.0 [15.91]	800.0 [31.50]	-	-	500.0 [19.69]	630.0 [24.80]	760.0 [29.92]	1729.0 [68.07]	-	-	1701.6 [66.99]

Frame	H5	D1	D2	D3	D4	D5	D6	S1	S2	S3	Ø 1	Ø 2	Ø 3
H2	mm inch	1346.6 [53.02]	51.0 [2.01]	38.0 [1.50]	65.0 [2.56]	204.0 [8.03]	68.0 [2.68]	137.0 [5.39]	13.0 [0.51]	26.5 [1.04]	25.0 [0.98]	-	-

■ Frame H3



MODEL

VFD3150CP43C-21
VFD3550CP43C-21
VFD4000CP43C-21

Unit : mm[inch]

Frame	W	H	D	W1	W2	W3	W4	W5	W6	H1	H2	H3	H4	
H3	mm inch	700.0 [27.56]	1745.0 [68.70]	404.0 [15.91]	800.0 [31.50]	-	-	500.0 [19.69]	630.0 [24.80]	760.0 [29.92]	1729.0 [68.07]	-	-	1701.6 [66.99]

Frame	H5	D1	D2	D3	D4	D5	D6	S1	S2	S3	Ø 1	Ø 2	Ø 3	
H3	mm inch	1346.6 [53.02]	51.0 [2.01]	38.0 [1.50]	65.0 [2.56]	204.0 [8.03]	68.0 [2.68]	137.0 [5.39]	13.0 [0.51]	26.5 [1.04]	25.0 [0.98]	22.0 [0.87]	34.0 [1.34]	117.5 [4.63]

Option Cards

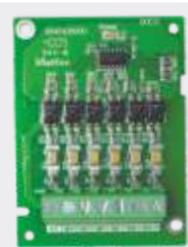
EMC-D42A



I/O Extension Card

Terminals	Descriptions
MI10~ MI13	Common for multi-function input terminals Select SINK (NPN) /SOURCE (PNP) in J1 jumper / external power supply
	Refer to parameters 02-26~02-29 to program the multi-function inputs MI10~MI13. Internal power is applied from terminal E24: +24Vdc±5% 200mA, 5W External power +24Vdc: max. voltage 30Vdc, min. voltage 19Vdc, 30W ON: the activation current is 6.5mA OFF: leakage current tolerance is 10µA
	Multi-function output terminals (photocoupler) Duty-cycle: 50% Max. output frequency: 100Hz Max. current: 50mA Max. voltage: 48Vdc
	Common for multi-function output terminals MO10, MO11(photocoupler) Max 48Vdc 50mA
MXM	

EMC-D611A



EMC-R6AA



Relay Extension Card

Terminals	Descriptions
R10A~R15A R10C~R15C	Refer to Pr. 02.36~ Pr. 02.41 for multi-function input selection Resistive load: 5A(N.O.)/3A(N.C.) 250VAC 5A(N.O.)/3A(N.C.) 30Vdc Inductive load (COS 0.4) 2.0A(N.O.)/1.2A(N.C.) 250VAC 2.0A(N.O.)/1.2A(N.C.) 30Vdc It is used to output each monitor signal, such as for drive in operation, frequency attained or overload indication.

EMC-BPS01



External Power Supply Card

Terminals	Descriptions
24V GND	Input Power Specification: 24V±5% Maximum input current:0.5A Note: 1) Do not connect the control terminal +24V terminal directly to the EMC-BPS01 input terminal 24V. 2) Do not connect the control terminal GND directly to the EMC-BPS01 input terminal GND to ensure a proper grounding.

CMC-MOD01



Features

- MDI/MDI-X auto-detect
- E-mail alarm
- Virtual serial port.
- Baud rate: 10/100Mbps auto-detect
- Supports Modbus TCP protocol
- AC motor drive keypad/Ethernet configuration

Network Interface

Interface	RJ-45 with Auto MDI/MDIX
Number of ports	1 Port
Transmission method	IEEE 802.3, IEEE 802.3u
Transmission cable	Category 5e shielding 100M
Transmission speed	10/100 Mbps Auto-Detect
Network protocol	ICMP, IP, TCP, UDP, DHCP, SMTP, MODBUS OVER TCP/IP, Delta Configuration

CMC-EIP01



Features

- MDI/MDI-X auto-detect
- Virtual serial port
- Supports Modbus TCP and Ethernet/IP protocol
- Baud rate: 10/100Mbps auto-detect
- AC motor drive keypad/Ethernet configuration

Network Interface

Interface	RJ-45 with Auto MDI/MDIX
Number of ports	1 Port
Transmission method	IEEE 802.3, IEEE 802.3u
Transmission cable	Category 5e shielding 100M
Transmission speed	10/100 Mbps Auto-Detect
Network protocol	ICMP, IP, TCP, UDP, DHCP, HTTP, SMTP, MODBUS OVER TCP/IP, EtherNet/IP, Delta Configuration

CMC-PD01



Features

- Supports PZD control data exchange.
- Supports PKW polling AC motor drive parameters.
- Supports user diagnosis function.
- Auto-detects baud rates; supports Max. 12Mbps.

PROFIBUS DP Connector

Interface	DB9 connector
Transmission method	High-speed RS-485
Transmission cable	Shielded twisted pair cable
Electrical isolation	500VDC

Communication

Message type	Cyclic data exchange
Module name	CMC-PD01
GSD document	DELA08DB.GSD
Company ID	08DB (HEX)
Serial transmission speed supported (auto-detection)	9.6kbps; 19.2kbps; 93.75kbps; 187.5kbps; 125kbps; 250kbps; 500kbps; 1.5Mbps; 3Mbps; 6Mbps; 12Mbps (bits per second)

Option Cards

CMC-DN01



Features

- Based on the high-speed communication interface of Delta HSSP protocol, able to conduct immediate control of AC motor drive.
- Supports Group 2 only connection and polling I/O data exchange.
- For I/O mapping, supports Max. 32 words of input and 32 words of output.
- Supports EDS file configuration in DeviceNet configuration software.
- Supports all baud rates on DeviceNet bus: 125kbps, 250kbps, 500kbps and extendable serial transmission speed mode.
- Node address and serial transmission speed can be set up on AC motor drive.
- Power supplied from AC motor drive.

DeviceNet Connector

Interface	5-PIN open removable connector. Of 5.08mm PIN interval
Transmission method	CAN
Transmission cable	Shielded twisted pair cable (with 2 power cables)
Transmission speed	125kbps, 250kbps, 500kbps and extendable serial transmission speed mode
Network protocol	DeviceNet protocol

AC Motor Drive Connection Port

Interface	50 PIN communication terminal
Transmission method	SPI communication
Terminal function	1. Communicating with AC motor drive 2. Transmitting power supply from AC motor drive
Communication protocol	Delta HSSP protocol

EMC-COP01



RJ-45 Pin Definition

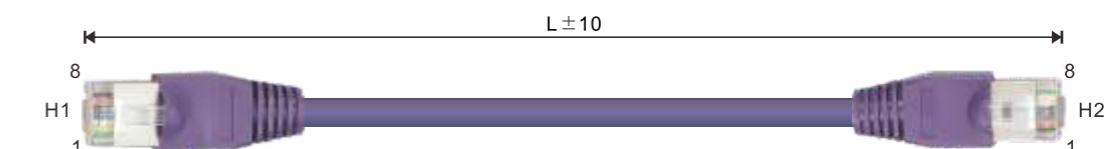
Male	RJ-45 Pin Definition		Pin	Pin name	Definition
	8~1	Female			
			1	CAN_H	CAN_H bus line (dominant high)
			2	CAN_L	CAN_L bus line (dominant low)
			3	CAN_GND	Ground/0V/V-
			7	CAN_GND	Ground/0V/V-

Specifications

Interface	RJ-45
Number of ports	1 Port
Transmission method	CAN
Transmission cable	CAN standard cable
Transmission speed	1M 500k 250k 125k 100k 50k
Communication protocol	CANopen

CANopen Communication Cable

Model: TAP-CB03, TAP-CB04



Title	Part No.	L	
		mm	inch
1	TAP-CB03	500±10	19±0.4
2	TAP-CB04	1000±10	39±0.4

CANopen Breakout Box

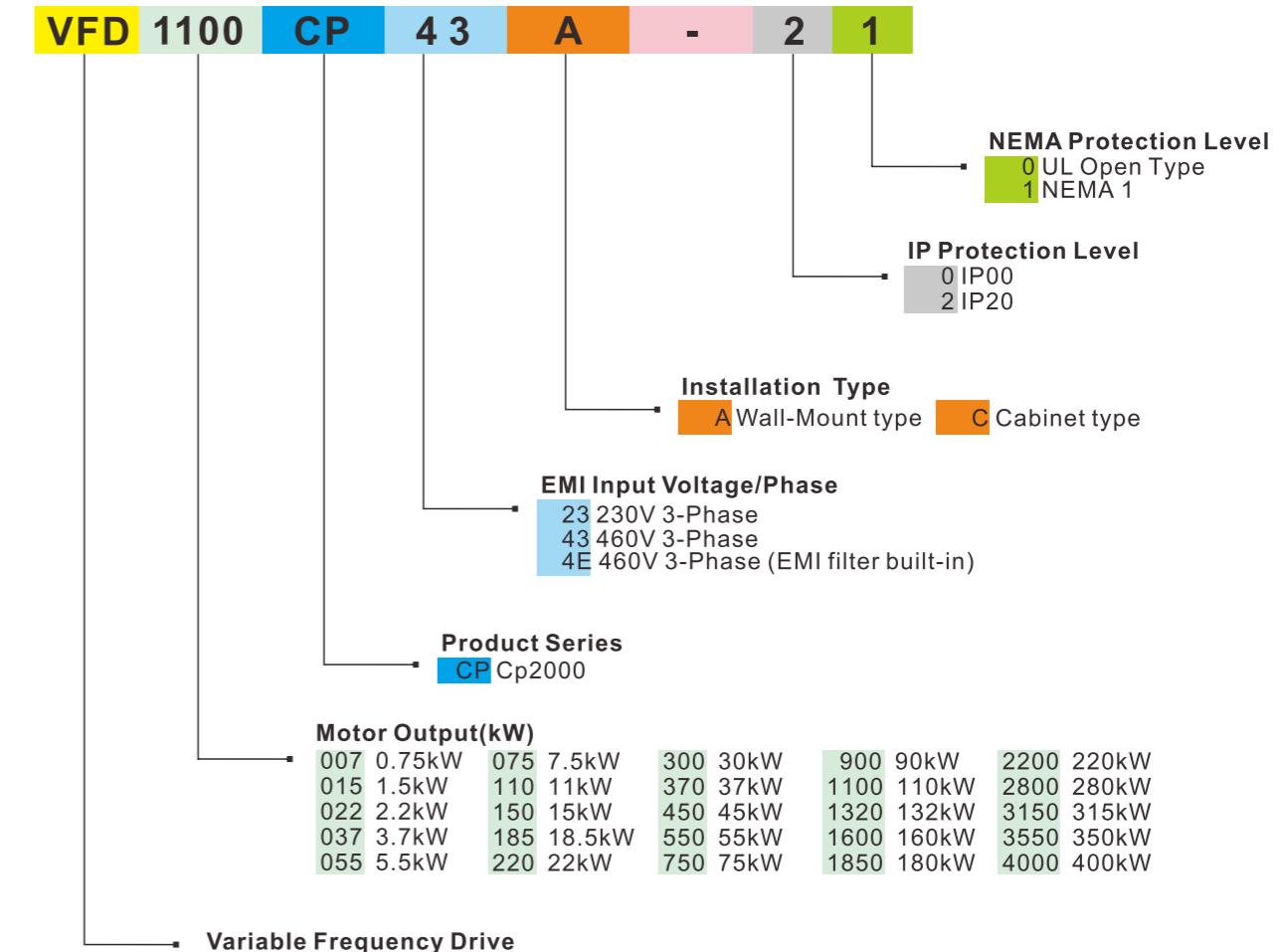
Model: TAP-CN03



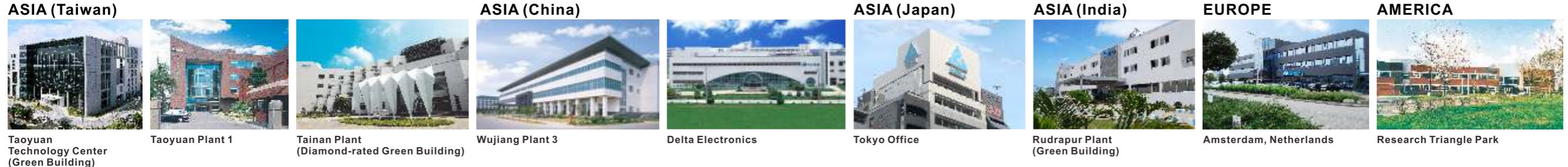
Ordering Information

Frame A 	230V: 0.75kW~5.5kW 460V: 0.75kW~7.5kW	VFD007CP23A-21 VFD007CP43A-21 VFD007CP4EA-21 VFD015CP23A-21 VFD015CP43A-21 VFD015CP4EA-21 VFD022CP23A-21 VFD022CP43A-21 VFD022CP4EA-21 VFD037CP23A-21 VFD037CP43A-21 VFD037CP4EA-21 VFD055CP23A-21 VFD040CP43A-21 VFD040CP4EA-21 VFD055CP43A-21 VFD055CP4EA-21 VFD075CP43A-21 VFD075CP4EA-21
Frame B 	230V: 7.5kW~15kW 460V: 11kW~18.5kW	VFD075CP23A-21 VFD110CP43A-21 VFD110CP4EA-21 VFD110CP23A-21 VFD150CP43A-21 VFD150CP4EA-21 VFD150CP23A-21 VFD185CP43A-21 VFD185CP4EA-21
Frame C 	230V: 18.5kW~30kW 460V: 22kW~37kW	VFD185CP23A-21 VFD220CP43A-21 VFD220CP4EA-21 VFD220CP23A-21 VFD300CP43A-21 VFD300CP4EA-21 VFD300CP23A-21 VFD370CP43A-21 VFD370CP4EA-21
Frame D 	230V: 37kW~45kW 460V: 45kW~90kW	Frame D1: VFD370CP23A-00 VFD450CP23A-00 VFD450CP43A-00 VFD750CP43A-00 VFD900CP43A-00 Frame D2: VFD370CP23A-21 VFD450CP23A-21 VFD450CP43A-21 VFD750CP43A-21 VFD900CP43A-21
Frame E 	230V: 55kW~90kW 460V: 110kW~132kW	Frame E1: VFD550CP23A-00 VFD750CP23A-00 VFD900CP23A-00 VFD1100CP43A-00 VFD1320CP43A-00 Frame E2: VFD550CP23A-21 VFD750CP23A-21 VFD900CP23A-21 VFD1100CP43A-21 VFD1320CP43A-21
Frame F 	460V: 160kW~185kW	Frame F1: VFD1600CP43A-00 VFD1850CP43A-00 Frame F2: VFD1600CP43A-21 VFD1850CP43A-21
		Frame G 
		460V: 220kW~280kW
		Frame G1: VFD2200CP43A-00 Frame G2: VFD2200CP43A-21 VFD2800CP43A-00 VFD2800CP43A-21
		Frame H 
		460V: 315kW~400kW
		Frame H1: VFD3150CP43A-00 VFD3550CP43A-00 VFD4000CP43A-00 Frame H2: VFD3150CP43C-00 VFD3550CP43C-00 VFD4000CP43C-00 Frame H3: VFD3150CP43C-21 VFD3550CP43C-21 VFD4000CP43C-21

Model Name



Global Operations



Sales Channels of Delta Industrial Automation are Located Worldwide in 74 Countries

▲ Factories 2 ■ Branch offices 60 ○ R&D Centers 5 □ Distributors 581

