



Digitized Automation for a Changing World

Delta Textile Vector Control Drive CT2000 Series



www.deltaww.com

 **DELTA**
Smarter. Greener. Together.

The CT2000 Series is an industrial drive designed for textile and other critical environment applications that have a high density of dust, fiber, oil or other such substances. To prevent fiber or dust from clogging or entering the drive, the CT2000 offers a fanless design for flange mount installation which is suitable for an application environment that has an air cooling duct system. There is also a large fan design for wall mount installation that can fit all types of applications. The CT2000 provides ultimate application flexibility for the textile industry.

Applications: Spinning machines, roving machines, machine tool, ceramic, glass and other highly demanding industries.



Features

- Fanless design with high efficiency heat sink to prevent fiber and dust from clogging or entering the drive. No more overheating problems (*1)
- Flange mount installation to enhance system safety and stability and provide excellent heat dissipation performance (*1)
- Supports external fan connection (*1)
- Wall mount installation model with a large fan (*2)
- Deceleration Energy Backup (DEB) function for smooth motor deceleration control
- Supports both asynchronous and synchronous motors
- Common DCBUS design
- Enhanced drive durability using Printed Circuit Board (PCB) coating standard IEC 60721-3-3 CLASS 3C3
- Built-in 10K steps PLC programming capability and RS-485 with MODBUS communication for master station so there is no need for an additional host controller and communication module in the system. Constructs a simple network with high performance and effective cost.
- Optional communication cards are available upon request

*1: For model names ending with code A or B

*2: For model names ending with code C

Deceleration Energy Backup (DEB)

The CT2000 Series features a Decelerate Energy Backup (DEB) function to prevent thread or yarn breaking when a sudden power outage or abnormal operation interruption occurs. It uses the regenerative energy that is produced during braking to facilitate the motor deceleration process. It also supports a common DCBUS connection allowing multiple drives to control multiple motors decelerating to a stop smoothly and synchronously at the same speed ratio which is a perfect solution for spinning machines and other applications that require synchronous deceleration control of motors via DCBUS.

Standard Model

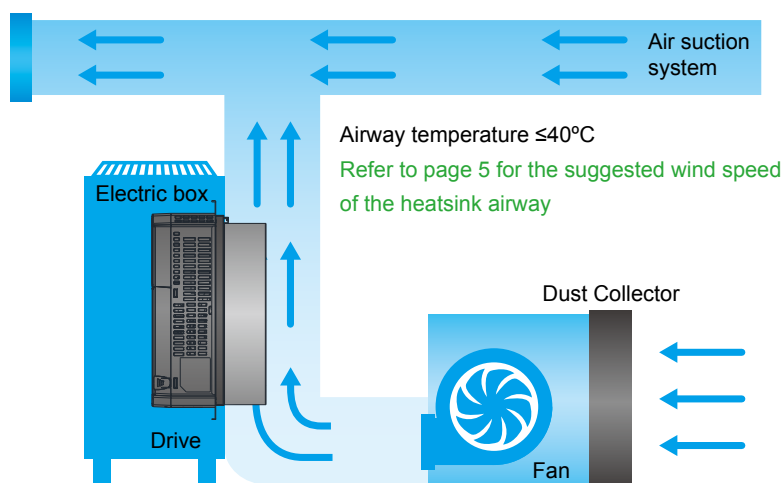
Power Range 460 V 11~90 kW

460 V (kW)	11	15	18.5	22	30	37	45	55	75	90
460 V (HP)	15	20	25	30	40	50	60	75	100	125
Frame (Flange Mount)	B			C			D			
Frame (Wall Mount)	B			C			D			

Flange Mount

Flange mount installation for the fanless model. This design avoids fiber or dust clumping in the fan or entering the drive and prevents overheating problems. This model is suitable for an application environment that has sufficient space for an airway for the drive. (See the picture on the right)

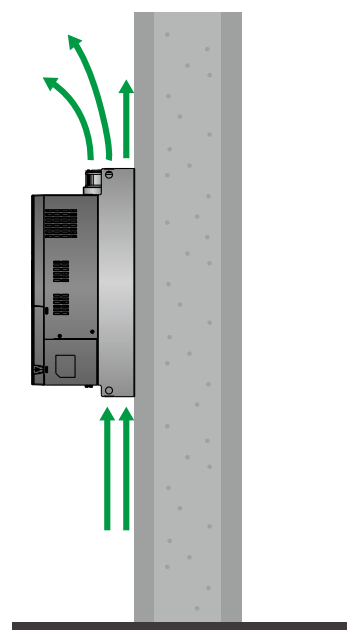
(Available for models with names ending in A or B)



Wall Mount

Larger fan design for the wall mount model to fulfill other textile application needs.

(Larger fan is available for models with names ending in C)



Modular Design

- Various accessories options, such as I/O extension cards, encoder feedback cards, communication cards, hot pluggable LCD keypad, removable terminals and removable fans.

▶ PG Card

EMC-PG010 / EMC-PG020



EMC-PG01U / EMC-PG02U



EMC-PG01L / EMC-PG02L



EMC-PG01R



* ▶ : Optional accessories available upon purchase

▶ I/O Extension Card

EMC-D611A



EMC-D42A



▶ 24V Power Shift Card

EMC-BPS01



▶ Relay Extension Card

EMC-R6AA



▶ Communication Card

CMC-PD01



CMC-DN01



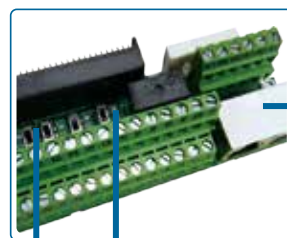
CMC-MOD01
CMC-EIP01



EMC-COP01



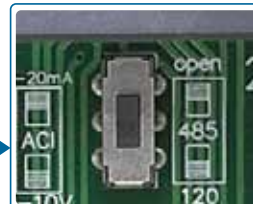
- Removable terminal blocks
Safe and easy to install



Analog I/O switches



RS-485 communication

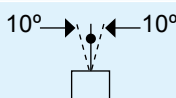


RJ45 serial communication port



Environment for Operation, Storage and Transportation

DO NOT expose the AC motor drive to harsh environments, such as with dust, direct sunlight, corrosive/flammable gasses, humidity, liquid or vibrations. The salts 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 (°C)	Storage	-25 ~ 70
		Transportation	-25 ~ 70
		Only allowed for non-condensation, non-frozen, non-conductive pollution environment.	
	Rated Humidity	Operation	Max. 95%
		Storage/ Transportation	Max. 95%
		Only allowed for non-condensation, non-frozen, non-conductive pollution environment.	
	Air Pressure (kPa)	Operation/ Storage	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 in a harsh environment with a 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 0~1000m, follow normal operation restrictions. If it is installed at altitude 1000~2000m, decrease 1% of rated current or lower 0.5°C of temperature for every 100m increase in altitude. Maximum altitude for Corner Grounded TN system is 2000m; for applications higher than 2000m, please contact Delta for more details.
Package Drop	Storage/Transportation	ISTA procedure 1A (according to weight) IEC60068-2-31	
Vibration	1.0mm, peak to peak value range from 2 Hz to 13.2 Hz; 0.7 G~1.0 G range from 13.2 Hz to 55 Hz; 1.0 G range from 55 Hz 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)		

Operation Temperature and Protection Level

Model	Frame	Top cover	Conduit Box	Protection Level	Operation Temperature
VFDxxxCT43xxxxx	B, C	Top cover removed	Standard conduit box	IP20/UL Open Type	Flange mount models: Drive body: -10~50 °C Heatsink side: -10~40 °C Wall mount models: -10~50 °C
	D	N/A	No conduit box	IP00 IP20/UL Open Type 	

Specifications

Frame Size			B			C			D			
Model VFD□□□CT43□□□□			110	150	185	220	300	370	450	550	750*	900*
Max. Applicable Motor Output (kW)			11	15	18.5	22	30	37	45	55	75	90
Max. Applicable Motor Output (HP)			15	20	25	30	40	50	60	75	100	125
Output Rating	Heavy Duty	Rated Output Capacity (kVA)	14	18	24	29	34	45	55	69	84	114
		Rated Output Current (A)	17	23	30	36	43	57	69	86	105	143
		Carrier Frequency (kHz)	2~6 kHz									
	Normal Duty	Rate Output Capacity (kVA)	18	24	29	36	45	57	73	88	115	143
		Rated Output Current (A)	24	32	38	45	60	73	91	110	144	180
		Carrier Frequency (kHz)	2~15 kHz				2~10 kHz					2~9 kHz
Input Rating	Input Current (A) Heavy Duty		19	25	33	38	45	60	70	96	108	149
	Input Current (A) Normal Duty		25	33	40	50	62	79	91	110	150	180
	Rated Voltage/Frequency		3-phase AC 380 V ~ 480 V (-15% ~ +10%), 50/60 Hz									
	Operating Voltage Range		323~528 Vac									
	Frequency Tolerance		47~63 Hz									
Cooling method			Flange-mounted model uses natural cooling, it is suitable for air cooling and use with heat sink; Wall-mounted model uses fan cooling									
Wind Speed at Heatsink Airway	Wind Speed at Carrier Frequency 2kHz (m/s)		3.5			3.5		7	3.5	4.5	6	8.5
	Wind Speed at Default Carrier Frequency (m/s)		3.5	6.5	8.5	3.5	7.0	9.5	5.5	6	8.5	9.5
Braking Chopper			Frame B to C (built-in); Frame D (optional)									
DC Reactor			Frame B to C (optional); Frame D (built-in)									
EMC Filter			Optional									

*Only for drives with model names ending in the letter A

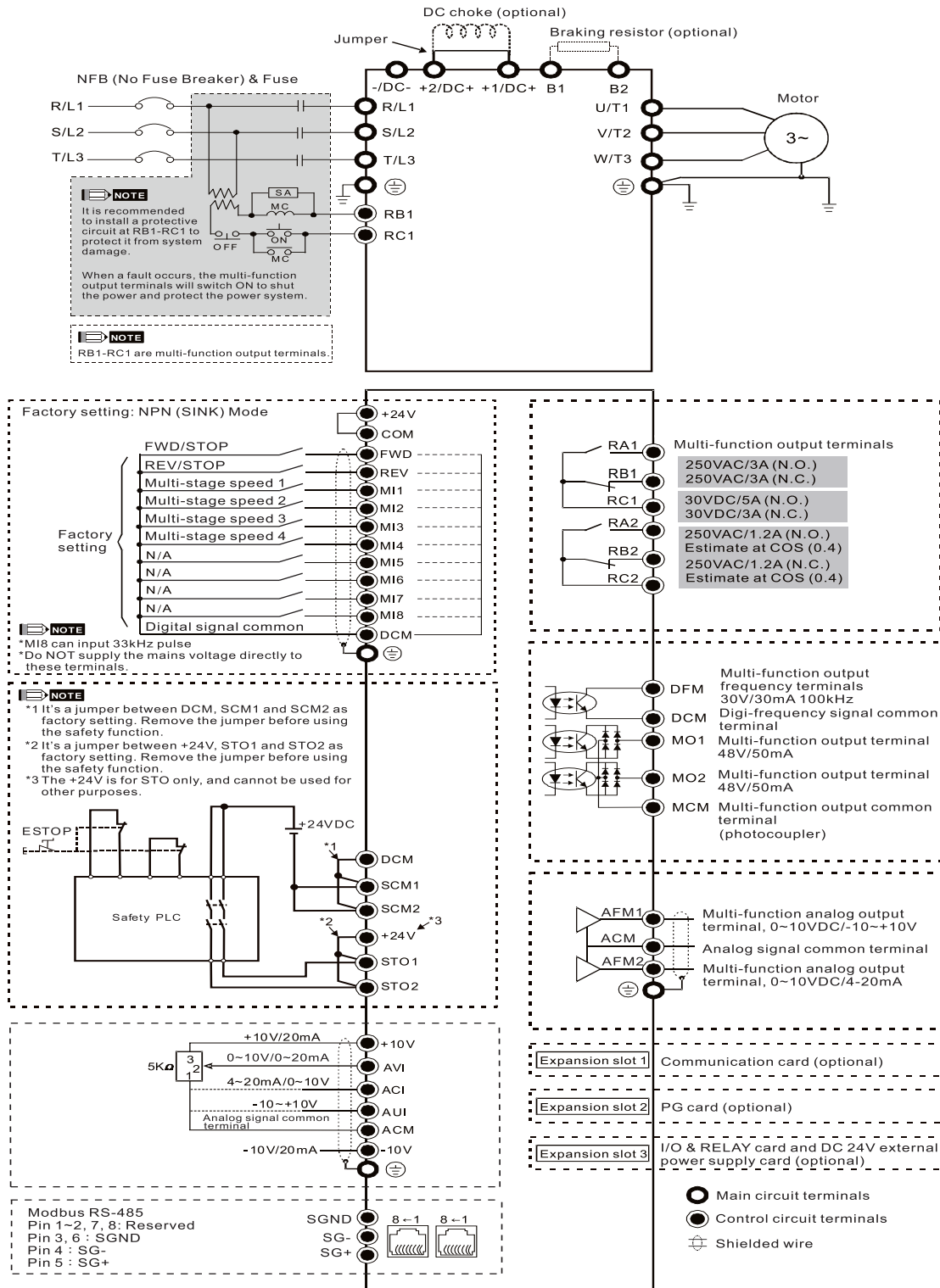
General Specifications

Control Characteristics	Control Method	1: V/F, 2: SVC, 3: VF+PG, 4: FOC+PG, 5: TQC+PG
	Starting Torque	Reach up to 150% or above at 0.5Hz. Under FOC+PG mode, starting torque can reach 150% at 0Hz.
	V/F Curve	4 point adjustable V/F curve and square curve
	Speed Response Ability	5Hz (vector control can reach up to 40Hz)
	Torque Limit	Light duty 130%, Heavy duty 175% torque current.
	Torque Accuracy at TQC Mode	±5%
	Max. Output Frequency (Hz)	Light duty: 0.01 ~ 599.00Hz; Heavy duty: 0.00 ~ 300.00Hz
	Frequency Output Accuracy	Digital command: ±0.01%, -10~+40℃ · Analog command: ±0.1%, 25±10℃
	Output Frequency Resolution	Digital command: 0.01Hz · Analog command: 0.03*max. output frequency / 60 Hz (±11 bit)
	Overload Tolerance	Light duty: 120% of rated current for 1 minute per every 5 minutes Heavy duty: 150% of rated current for 1 minute per every 5 minutes
	Frequency Setting Signal	+10V~-10 · 0~+10V · 4~20 mA · 0~20 mA · Pulse input
	Accel./decel. Time	0.00~600.00/0.0~6000.0 seconds
	Main Control Functions	Torque control, Droop control, Speed/torque control switching, Feed forward control, Zero-servo control, Momentary power loss ride thru, Speed search, Over-torque detection, Torque limit, 17-step speed (max), Accel/decel time switch, S-curve accel/decel, 3-wire sequence, Auto-Tuning (rotational, stationary), Dwell, Cooling fan on/off switch, Slip compensation, Torque compensation, JOG frequency, Frequency upper/lower limit settings, DC injection braking at start/stop, High slip braking, PID control (with sleep function), Energy saving control, MODBUS communication (RS-485 RJ45, max. 115.2 kbps), Fault restart, Parameter copy
Protection Characteristics	Fan Control	Version B: no fan; Model VFD185CT43 and above: PWM control; Model VFD150CT43 and below: ON/OFF switch
	Motor Protection	Electronic thermal relay protection
	Over-current Protection	Over-current protection for 200% rated current current clamp 『Light duty: 130~140% 』; 『Heavy duty: 180~185% 』
	Over-voltage Protection	Drive operation stops when DC bus voltage exceeds 820V
	Over-temperature Protection	Built-in temperature sensor
	Stall Prevention	Stall prevention during acceleration, deceleration and in operation
	Restart After Instantaneous Power Failure	Up to 20 seconds (parameter setting)
Grounding Leakage Current Protection		Leakage current is higher than 50% of rated current of the AC motor drive
Certifications		GB/T12668-2  

Wiring

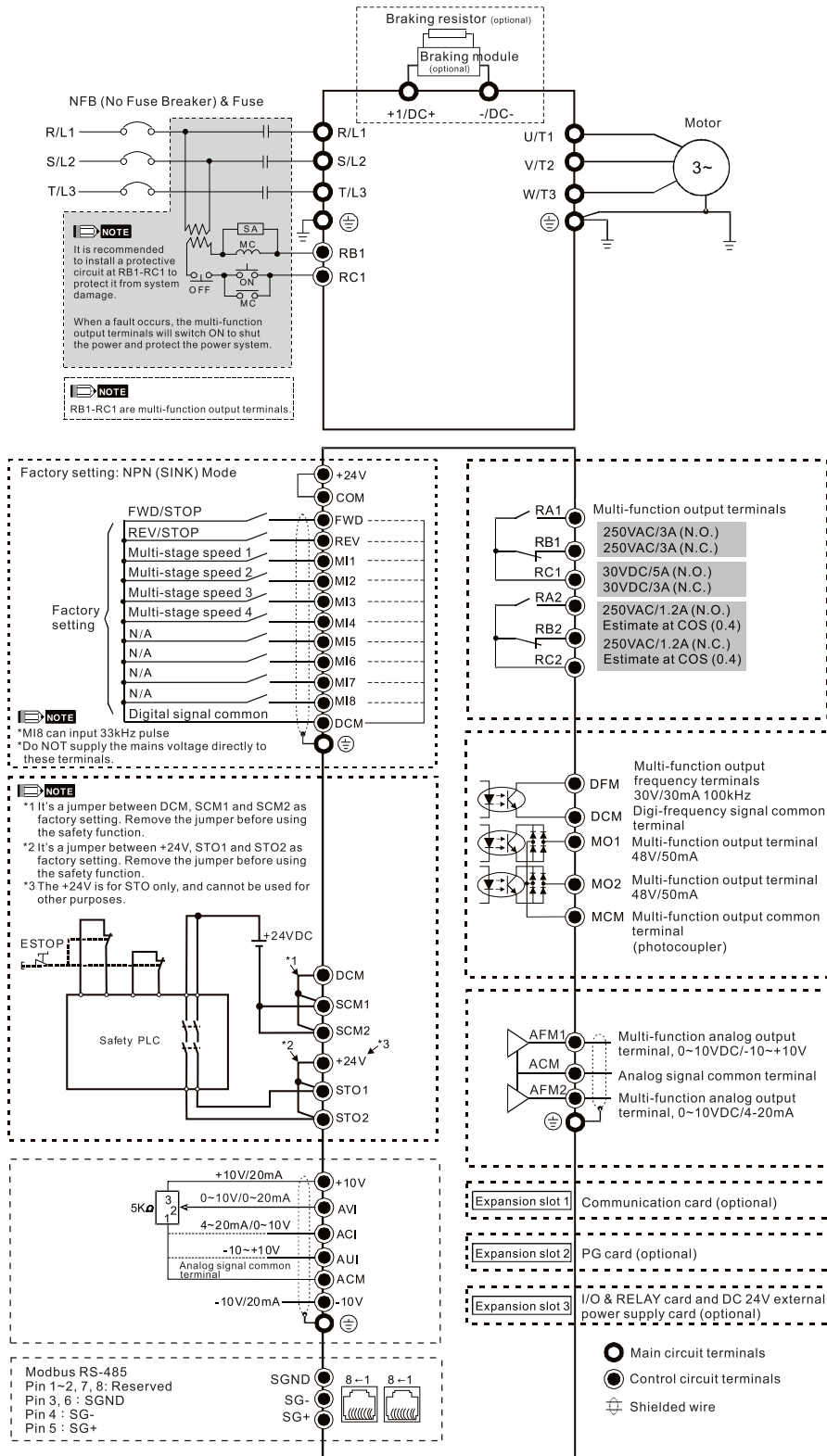
Frame B ~ C

Input: 3-phase power



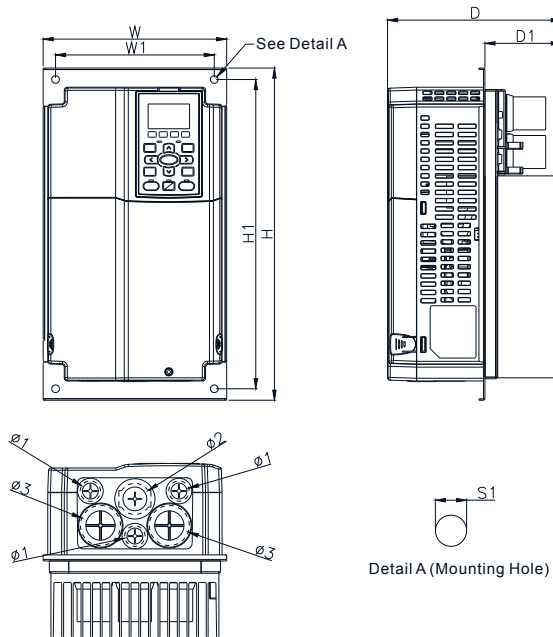
Frame D

Input: 3-phase power



Dimensions

■ Frame B (Flange mount)

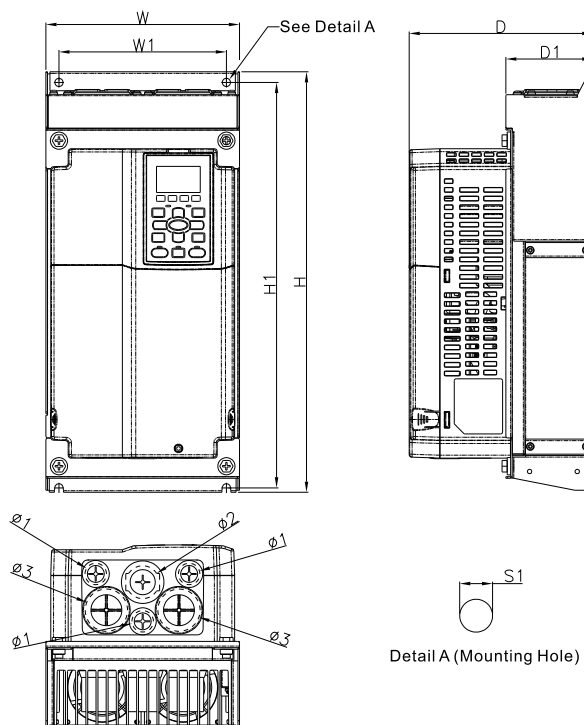


MODEL

VFD110CT43F00B
VFD150CT43F00B
VFD185CT43F00B

Frame		W	W1	H	H1	D	D1	S1	$\phi 1$	$\phi 2$	$\phi 3$
B	mm	200.0	173.0	361.8	336.8	189.4	83.2	8.5	22.2	34.0	43.8
	inch	7.87	6.81	14.24	13.26	7.46	3.28	0.33	0.87	1.34	1.72

■ Frame B (Wall mount)

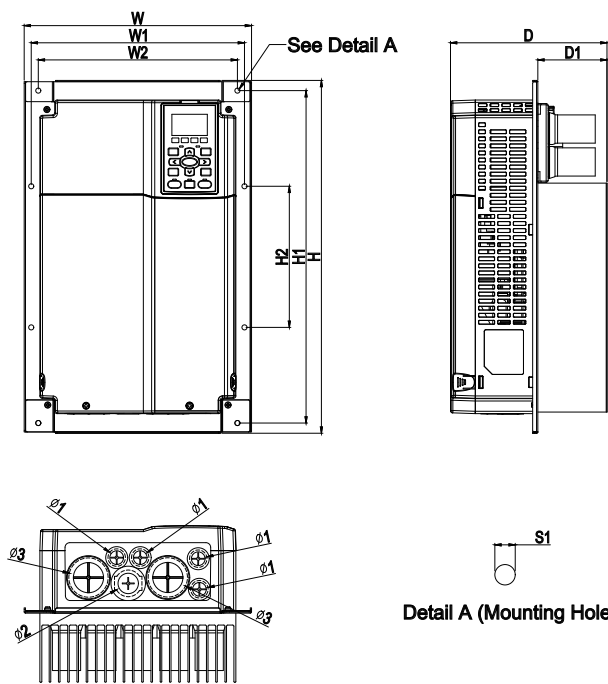


MODEL

VFD110CT43A21C
VFD150CT43A21C
VFD185CT43A21C

Frame		W	W1	H	H1	D	D1	S1	$\phi 1$	$\phi 2$	$\phi 3$
B	mm	200.0	173.0	435.0	419.4	189.4	89.8	8.5	22.2	34.0	43.8
	inch	7.87	6.81	17.13	16.51	7.46	3.54	0.33	0.87	1.34	1.72

■ Frame C (Flange mount)

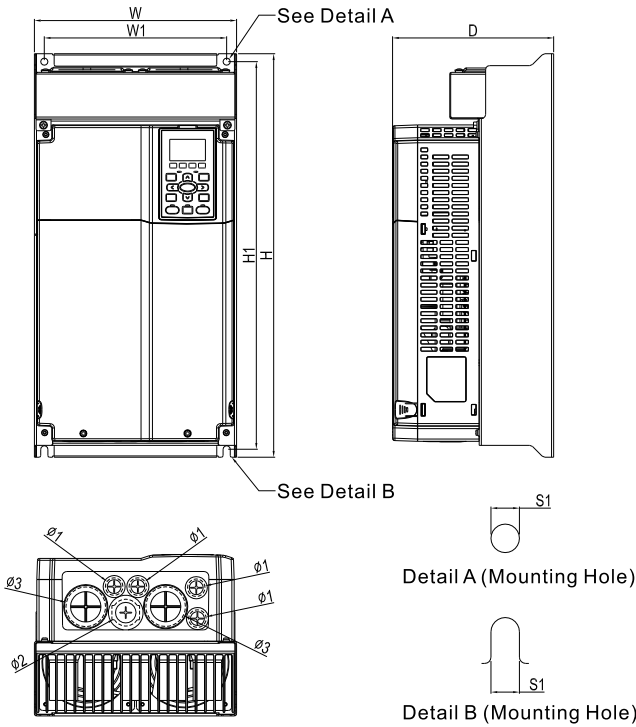


MODEL

VFD220CT43F00B
VFD300CT43F00B
VFD370CT43F00B

Frame		W	W1	H	H1	H2	D	D1	S1	Ø1	Ø2	Ø3
C	mm	290.0	272.0	450.0	424.0	180.0	199.5	88.2	6.5	22.2	34.0	50.0
	inch	11.42	10.71	17.72	16.69	7.09	7.86	3.47	0.26	0.87	1.34	1.97

■ Frame C (Wall mount)

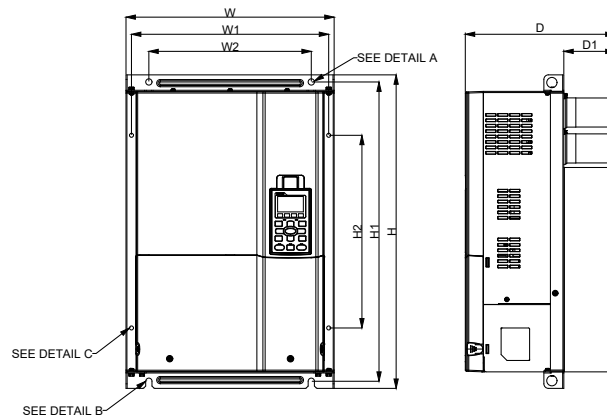


MODEL

VFD220CT43A21C
VFD300CT43A21C
VFD370CT43A21C

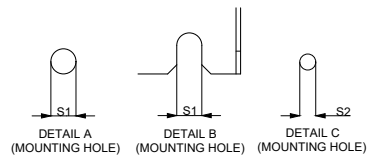
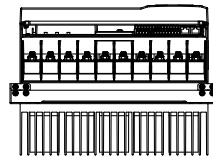
Frame		W	W1	H	H1	D	S1	Ø1	Ø2	Ø3
C	mm	256.0	231.0	510.0	490.0	204.0	9.0	22.2	34.0	50.0
	inch	10.08	9.09	20.08	19.29	8.03	0.35	0.87	1.34	1.97

■ Frame D (Flange mount)



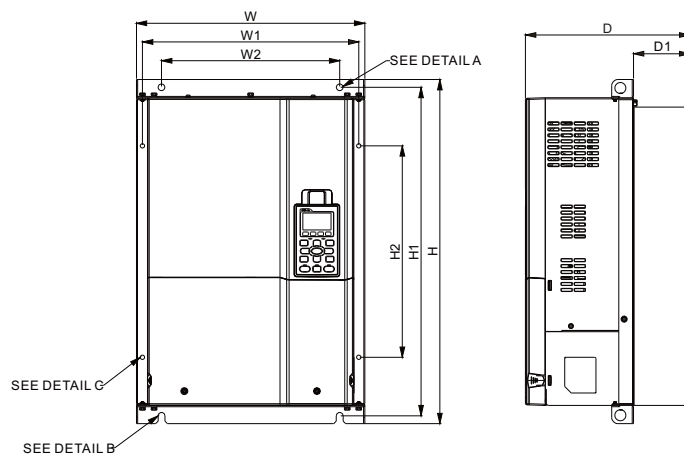
MODEL

VFD450CT43F00B
VFD550CT43F00B



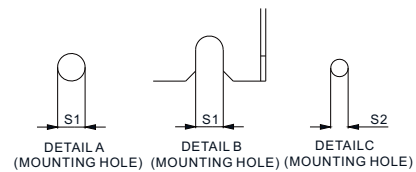
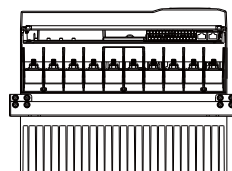
Frame		W	W1	W2	H	H1	H2	D	D1	S1	S2
D	mm	365.2	346.0	285.0	550.0	525.0	338.0	262.8	90.0	11.0	7.0
	inch	13.38	13.62	11.22	21.65	20.67	13.31	10.35	3.54	0.43	0.28

■ Frame D (Flange mount)



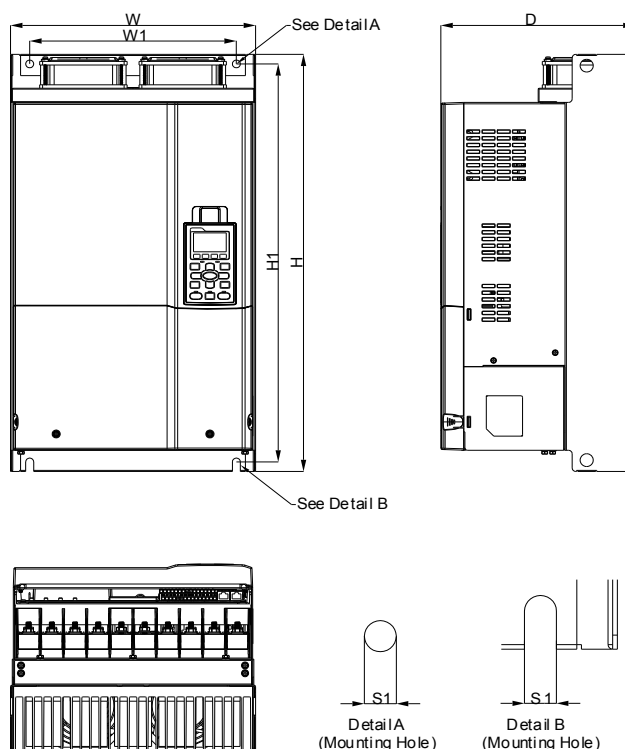
MODEL

VFD750CT43F00A6
VFD900CT43F00A8



Frame		W	W1	W2	H	H1	H2	D	D1	S1	S2
D	mm	365.2	346.0	285.0	550.0	525.0	338.0	262.8	90.0	11.0	7.0
	inch	13.38	13.62	11.22	21.65	20.67	13.31	10.35	3.54	0.43	0.28

■ Frame D (Wall mount)



MODEL

VFD450CT43A00C
VFD550CT43A00C

Frame		W	W1	H	H1	D	S1
D	mm	338.0	285.0	590.0	563.0	268.0	11.0
	inch	13.31	11.22	23.22	22.17	10.55	0.43

Accessories

■ EMC-PG01L / EMC-PG02L

		Terminals	Description
 Set by Pr.10-00 ~ 10-02	PG1	VP	Output voltage for power: +5V/+12V ± 5% (use FSW3 to switch +5V/+12V) Max. output current: 200mA
		DCM	Common for power and signal
		A1, /A1, B1, /B1, Z1, /Z1	Encoder input signal (Line Driver or Open Collector) Open collector input: +5 V / +24 V (Note1) 1-phase or 2-phase input Max. input frequency: EMC-PG01L: 300KHz; EMC-PG02L: 30KHz
	PG2	A2, /A2, B2, /B2	Pulse input signal (Line Driver or Open Collector) Open collector input: +5V/+24V (Note1) 1-phase or 2-phase input Max. input frequency: EMC-PG01L: 300KHz; EMC-PG02L: 30KHz
	PG OUT	AO, /AO, BO, /BO, ZO, /ZO, SG	PG card output signals. Division frequency function: 1 ~ 255 times Max. output voltage for Line driver: 5V _{DC} Max. output current: 50 mA Max. output frequency: EMC-PG01L: 300KHz; EMC-PG02L: 30KHz SG: The GND of PG card is the same as the host controller or PLC, so a common output signal is attained.

■ EMC-PG010 / EMC-PG020

 Set by Pr.10-00 ~ 10-02	Terminals		Description
	PG1	VP	Output voltage for power: +5V/+12V ± 5% (use FSW3 to switch +5V/+12V) Max. output current: 200 mA
		DCM	Common for power and signal
		A1, /A1, B1, /B1, Z1, /Z1	Encoder input signal (Line Driver or Open Collector) Open collector input: +5V/+24V (Note1) 1-phase or 2-phase input Max. input frequency: EMC-PG010: 300KHz; EMC-PG020: 30KHz
	PG2	A2, /A2, B2, /B2	Pulse input signal (Line Driver or Open Collector) Open collector input: +5V/+24V (Note1) 1-phase or 2-phase input Max. input frequency: EMC-PG010: 300KHz; EMC-PG020: 30KHz
	PG OUT	V+, V+	Needs external power source for PG OUT circuit. Input voltage of power: +7V ~ +24V
		V-	Negative power supply input
		A/O, B/O, Z/O	PG card output signals. Division frequency function: 1 ~ 255 times Add a pull-up resistor to the open collector output signals to avoid signal interferences. [Three pull-up resistors are included in the package (1.8KΩ/1W)] Max. output current: 20 mA Max. output frequency: EMC-PG010: 300KHz; EMC-PG020: 30KHz

■ EMC-PG01R

 Set by Pr.10-00 ~ 10-02	Terminals		Description
	PG1	R1- R2	Resolver output power 7 Vrms, 10 kHz
		S1, S2, S3, S4	Resolver input signal 3.5 ± 0.175 Vrms, 10 kHz
	PG2	A2, /A2, B2, /B2	Pulse input signal (Line Driver or Open Collector) Open collector input: +5V/+24V (Note1) 1-phase or 2-phase input; Max. input frequency: 300 KHz
	PG OUT	AO, /AO, BO, /BO, ZO, /ZO, SG	PG card output signals. Division frequency function: 1 ~ 255 times Max. output voltage for Line driver: 5V _{DC} Max. output current: 50 mA Max. output frequency: 300 KHz SG: The GND of PG card is the same as the host controller or PLC, so a common output signal is attained.

■ EMC-PG01U / EMC-PG02U

FJMP1 : Standard UVW Output Encoder; : Delta Encoder

 Set by Pr.10-00 ~ 10-02	Terminals		Description
	PG1	VP	Output voltage for power: +5V/+12V ± 5% (use FSW3 to switch +5V/+12V) Max. output current: 200 mA
		DCM	Common for power and signal
		A1, /A1, B1, /B1, Z1, /Z1	Encoder input signal (Line Driver) 1-phase or 2-phase input. Max. input frequency: 300 KHz
		U1, /U1, V1, /V1, W1, /W1	Encoder input signal
	PG2	A2, /A2, B2, /B2	Pulse input signal Open collector input voltage: +5V/+24V (Note1) 1-phase or 2-phase input; Max. input frequency: 300KHz
	PG OUT	AO, /AO, BO, /BO, ZO, /ZO, SG	PG card output signals. Division frequency function: 1 ~ 255 times Max. output voltage for Line driver: 5V _{DC} Max. output current: 50 mA Max. output frequency: 300 KHz SG: The GND of PG card is the same as the host controller or PLC, so a common output signal is attained.

Note 1: For the Open Collector, set input voltage to 5 ~ 15mA and install a pull-up resistor

[5V] Recommend pull-up resistor: 100 ~ 220Ω, 1/2W and above

[12V] Recommend pull-up resistor: 510 ~ 1.35kΩ, 1/2W and above

[24V] Recommend pull-up resistor: 1.8k ~ 3.3kΩ, 1/2W and above

■ EMC-D42A

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

■ EMC-D611A

 I/O Extension Card	Terminals	Description
	AC	AC power common for multi-function input terminal (Neutral)
	MI10 ~ MI15	Refer to Pr. 02.26 ~ Pr. 02.31 for multi-function input selection Input voltage: 100 ~ 130 V _{AC} ; Input frequency: 47 ~ 63 Hz Input impedance: 27 Kohm Terminal response time: ON: 10 ms; OFF: 20 ms

■ EMC-R6AA

 Relay Extension Card	Terminals	Description
	RA10 ~ RA15 RC10 ~ RC15	Refer to Pr. 02.36 ~ Pr. 02.41 for multi-function input selection Resistive load: 5 A(N.O.)/ 250 V _{AC} 5 A(N.O.)/30 V _{DC} Inductive load (COS 0.4) 2.0 A(N.O.)/250 V _{AC} 2.0 A(N.O.)/30 V _{DC} It is used to output each monitor signal, such as for drive in operation, frequency attained or overload indication.

■ EMC-BPS01

 24V Power Shift Card	Terminals	Description
	24V GND	When the AC motor drive power is off, the external power supply card provides external power to the network system, PLC function, and other functions to allow continued operations. Input power: 24 V _{DC} ±5% Maximum input current: 0.5A Note: Do not connect the control terminal +24 V (Digital control signal common: SOURCE) directly to the EMC-BPS01 input terminal 24 V. Do not connect control terminal GND directly to the EMC-BPS01 input terminal GND.

■ CMC-EIP01



Features

- ▶ Supports EtherNet/IP and MODBUS TCP protocol
- ▶ User-defined parameter mapping
- ▶ IP Filter, basic firewall function

Network Interface

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

■ 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 the AC motor drive
- ▶ Power supplied from the AC motor drive

DeviceNet Connector

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

DeviceNet Connector

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

■ 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

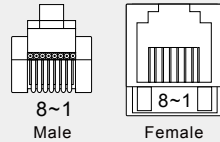
Interface	DB9 connector
Transmission method	High-speed RS-485
Transmission cable	Shielded twisted pair cable
Electrical isolation	500 V _{DC}

Communication

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

■ EMC-COP01

RJ-45 Pin definition



Pin	Pin name	Definition
1	CAN_H	CAN_H bus line (dominant high)
2	CAN_L	CAN_L bus line (dominant low)
3	CAN_GND	Ground/0V/V-
6	CAN_GND	Ground/0V/V-

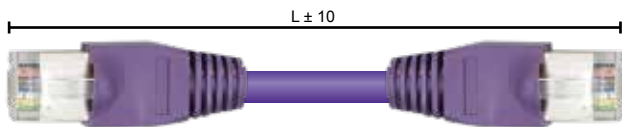
Network Interface

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

■ Delta Standard Fieldbus Cables

Delta Cables	Part Number	Description	Length
CANopen Cable	UC-CMC003-01A	CANopen cable, RJ45 connector	0.3m
	UC-CMC005-01A	CANopen cable, RJ45 connector	0.5m
	UC-CMC010-01A	CANopen cable, RJ45 connector	1m
	UC-CMC015-01A	CANopen cable, RJ45 connector	1.5m
	UC-CMC020-01A	CANopen cable, RJ45 connector	2m
	UC-CMC030-01A	CANopen cable, RJ45 connector	3m
	UC-CMC050-01A	CANopen cable, RJ45 connector	5m
	UC-CMC100-01A	CANopen cable, RJ45 connector	10m
	UC-CMC200-01A	CANopen cable, RJ45 connector	20m
DeviceNet Cable	UC-DN01Z-01A	DeviceNet cable	305m
	UC-DN01Z-02A	DeviceNet cable	305m
EtherNet Cable	UC-EMC003-02A	EtherNet/EtherCAT cable, Shielding	0.3m
	UC-EMC005-02A	EtherNet/EtherCAT cable, Shielding	0.5m
	UC-EMC010-02A	EtherNet/EtherCAT cable, Shielding	1m
	UC-EMC020-02A	EtherNet/EtherCAT cable, Shielding	2m
	UC-EMC050-02A	EtherNet/EtherCAT cable, Shielding	5m
	UC-EMC100-02A	EtherNet/EtherCAT cable, Shielding	10m
	UC-EMC200-02A	EtherNet/EtherCAT cable, Shielding	20m
CANopen/DeviceNet TAP	TAP-CN01	1 in 2 out, built-in 121Ω terminal resistor	1 in 2 out
	TAP-CN02	1 in 4 out, built-in 121Ω terminal resistor	1 in 4 out
	TAP-CN03	1 in 4 out, RJ45 connector, built-in 121Ω terminal resistor	1 in 4 out
PROFIBUS Cable	UC-PF01Z-01A	PROFIBUS DP cable	305m

Unit: mm



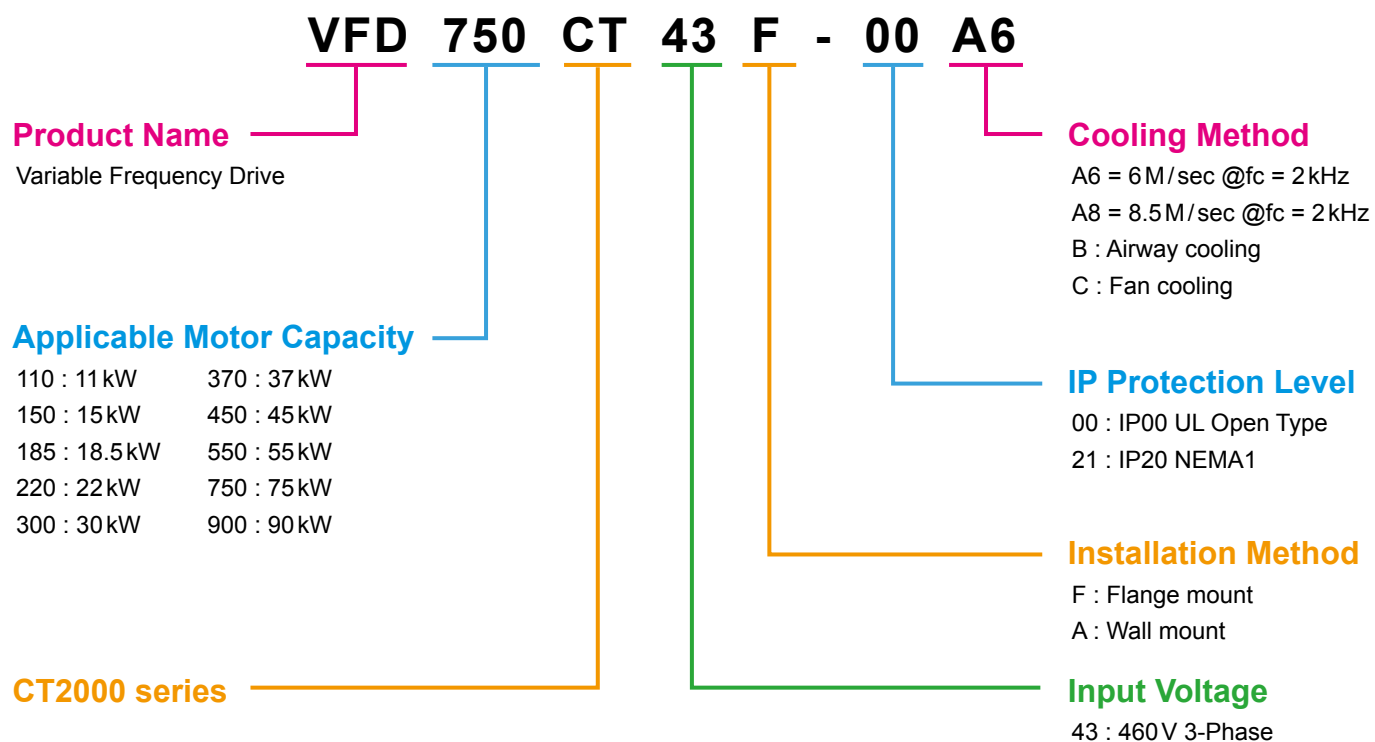
■ CANopen Breakout Box

Model: TAP-CN03

Unit: mm [inch]



Model Name



Ordering Information

■ Flange mount models

Frame Size		Power Range	Models
Frame B		460 V: 11 kW ~ 18.5 kW	VFD110CT43F00B VFD150CT43F00B VFD185CT43F00B
Frame C		460 V: 22 kW ~ 37 kW	VFD220CT43F00B VFD300CT43F00B VFD370CT43F00B
Frame D		460 V: 45 kW ~ 90 kW	VFD450CT43F00B VFD550CT43F00B VFD750CT43F00A6 VFD900CT43F00A8

■ Wall mount models

Frame Size		Power Range	Models
Frame B		460 V: 11 kW ~ 18.5 kW	VFD110CT43A21C VFD150CT43A21C VFD185CT43A21C
Frame C		460 V: 22 kW ~ 37 kW	VFD220CT43A21C VFD300CT43A21C VFD370CT43A21C
Frame D		460 V: 45 kW ~ 55 kW	VFD450CT43A00C VFD550CT43A00C



Industrial Automation Headquarters

Taiwan: Delta Electronics, Inc.

Taoyuan Technology Center
No.18, Xinglong Rd., Taoyuan District,
Taoyuan City 33068, Taiwan
TEL: +886-3-362-6301 / FAX: +886-3-371-6301

Asia

China: Delta Electronics (Shanghai) Co., Ltd.

No.182 Minyu Rd., Pudong Shanghai, P.R.C.
Post code : 201209
TEL: +86-21-6872-3988 / FAX: +86-21-6872-3996
Customer Service: 400-820-9595

Japan: Delta Electronics (Japan), Inc.

Industrial Automation Sales Department
2-1-14 Shibadaimon, Minato-ku
Tokyo, Japan 105-0012
TEL: +81-3-5733-1155 / FAX: +81-3-5733-1255

Korea: Delta Electronics (Korea), Inc.

1511, 219, Gasan Digital 1-Rd., Geumcheon-gu,
Seoul, 08501 South Korea
TEL: +82-2-515-5305 / FAX: +82-2-515-5302

Singapore: Delta Energy Systems (Singapore) Pte Ltd.

4 Kaki Bukit Avenue 1, #05-04, Singapore 417939
TEL: +65-6747-5155 / FAX: +65-6744-9228

India: Delta Electronics (India) Pvt. Ltd.

Plot No.43, Sector 35, HSIIDC Gurgaon,
PIN 122001, Haryana, India
TEL: +91-124-4874900 / FAX: +91-124-4874945

Thailand: Delta Electronics (Thailand) PCL.

909 Soi 9, Moo 4, Bangpoo Industrial Estate (E.P.Z),
Pattana 1 Rd., T.Phraksa, A.Muang,
Samutprakarn 10280, Thailand
TEL: +66-2709-2800 / FAX: +66-2709-2827

Australia: Delta Electronics (Australia) Pty Ltd.

Unit 20-21/45 Normanby Rd., Notting Hill Vic 3168, Australia
TEL: +61-3-9543-3720

Americas

USA: Delta Electronics (Americas) Ltd.

5101 Davis Drive, Research Triangle Park, NC 27709, U.S.A.
TEL: +1-919-767-3813 / FAX: +1-919-767-3969

Brazil: Delta Electronics Brazil

Rua Itapeva, 26 - 3º, andar Edifício Itapeva,
One - Bela Vista 01332-000 - São Paulo - SP - Brazil
TEL: +55-12-3932-2300 / FAX: +55-12-3932-237

Mexico: Delta Electronics International Mexico S.A. de C.V.

Gustavo Baz No. 309 Edificio E PB 103
Colonia La Loma, CP 54060
Tlalneapantla, Estado de México
TEL: +52-55-3603-9200

EMEA

EMEA Headquarters: Delta Electronics (Netherlands) B.V.

Sales: Sales.IA.EMEA@deltaww.com
Marketing: Marketing.IA.EMEA@deltaww.com
Technical Support: iatechnicalsupport@deltaww.com
Customer Support: Customer-Support@deltaww.com
Service: Service.IA.emea@deltaww.com
TEL: +31(0)40 800 3900

BENELUX: Delta Electronics (Netherlands) B.V.

Automotive Campus 260, 5708 JZ Helmond, The Netherlands
Mail: Sales.IA.Benelux@deltaww.com
TEL: +31(0)40 800 3900

DACH: Delta Electronics (Netherlands) B.V.

Coesterweg 45, D-59494 Soest, Germany
Mail: Sales.IA.DACH@deltaww.com
TEL: +49(0)2921 987 0

France: Delta Electronics (France) S.A.

ZI du bois Challand 2, 15 rue des Pyrénées,
Lisses, 91090 Evry Cedex, France
Mail: Sales.IA.FR@deltaww.com
TEL: +33(0)1 69 77 82 60

Iberia: Delta Electronics Solutions (Spain) S.L.U

Ctra. De Villaverde a Vallecas, 265 1º Dcha Ed.
Hormigueras – P.I. de Vallecas 28031 Madrid
TEL: +34(0)91 223 74 20
Carrer Llacuna 166, 08018 Barcelona, Spain
Mail: Sales.IA.Iberia@deltaww.com

Italy: Delta Electronics (Italy) S.r.l.

Via Meda 2-22060 Novedrate(CO)
Piazza Grazioli 18 00186 Roma Italy
Mail: Sales.IA.Italy@deltaww.com
TEL: +39 039 8900365

Russia: Delta Energy System LLC

Vereyskaya Plaza II, office 112 Vereyskaya str.
17 121357 Moscow Russia
Mail: Sales.IA.RU@deltaww.com
TEL: +7 495 644 3240

Turkey: Delta Greentech Elektronik San. Ltd. Sti. (Turkey)

Şerifali Mah. Hendem Cad. Kule Sok. No:16-A
34775 Ümraniye – İstanbul
Mail: Sales.IA.Turkey@deltaww.com
TEL: + 90 216 499 9910

MEA: Eltek Dubai (Eltek MEA DMCC)

OFFICE 2504, 25th Floor, Saba Tower 1,
Jumeirah Lakes Towers, Dubai, UAE
Mail: Sales.IA.MEA@deltaww.com
TEL: +971(0)4 2690148