



Automation for a Changing World

Delta Intelligent Drive for Textile *CT2000 Series*



Certification
in progress



reddot design award
winner 2010

www.delta.com.tw/ia



DELTA

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Delta's CT2000 Series is an advanced level field oriented control drive designed for the textile industry. It incorporates and extends many excellent features from the C2000 general purpose field oriented control drive. It includes PLC functions and MODBUS RS-485 communication to facilitate remote IO control and offers a wide range of optional accessories for flexible application in various conditions. The special fanless design of the drive avoids the problem of dust and fiber clustering at the fan and prevents the drive from overheating*. The Delta CT2000 Series is suitable for all applications that demand a natural cooling method.

* For the CT2000 to perform natural cooling, the wind velocity at the application site must meet the CT2000 setting standard. Please refer to the CT2000 User Manual for more detail.

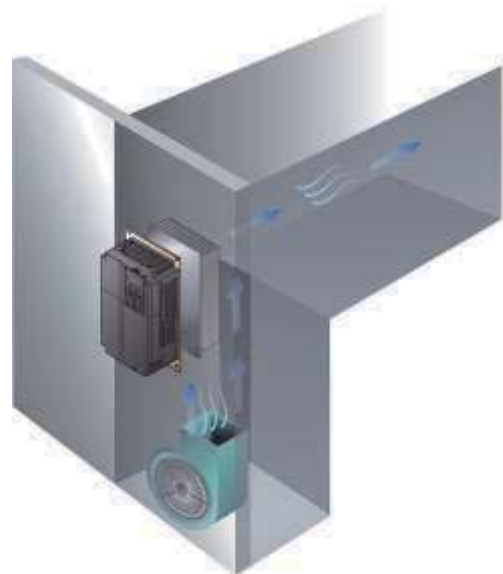
Features:

- Fanless design, natural cooling type, flange mounting
- Supports asynchronous and synchronous motors
- Built-in 10K steps PLC programming capacity and MODBUS RS-485
- 3 sets of optional extension card slots for encoder, IO and communication connections



Fanless Heatsink Design

Fanless design for natural cooling, cooling eliminates the worry of drive overheating due to fiber and dust accumulating at the fan.



Flange Mounting

The CT2000 with flange mounting has an air cooling duct design that prevents fibers from entering the drives. The flange mounting allows the CT2000 to be suitable for any application that has cooling duct design.

IP Protection Level: 11~37kW/IP20, 45~90kW/IP00

Power Rating	11kW	15kW	18.5kW	22kW	30kW	37kW	45kW	55kW	75kW	90kW
Frame B	460V/3-phase									
Frame C				460V/3-phase						
Frame D							460V/3-phase			

Modular Design

■ Various options are available, such as I/O extension cards, encoder feedback cards, communication cards, hot plug LCD keypad, removable terminals and removable fan.

▶ **PG (Encoder) cards**



▶ **I/O cards**



▶ **Communication cards**



- **Removable fan**
To ensure personal safety, do not begin wiring before the indicator light is off.
- **Power indicator**
To prevent personal injury, please do not perform wiring before power indicator is off.

*NOTE: "▶" are optional accessories.

- **Removable terminals**
Convenient wiring and safety equipment.

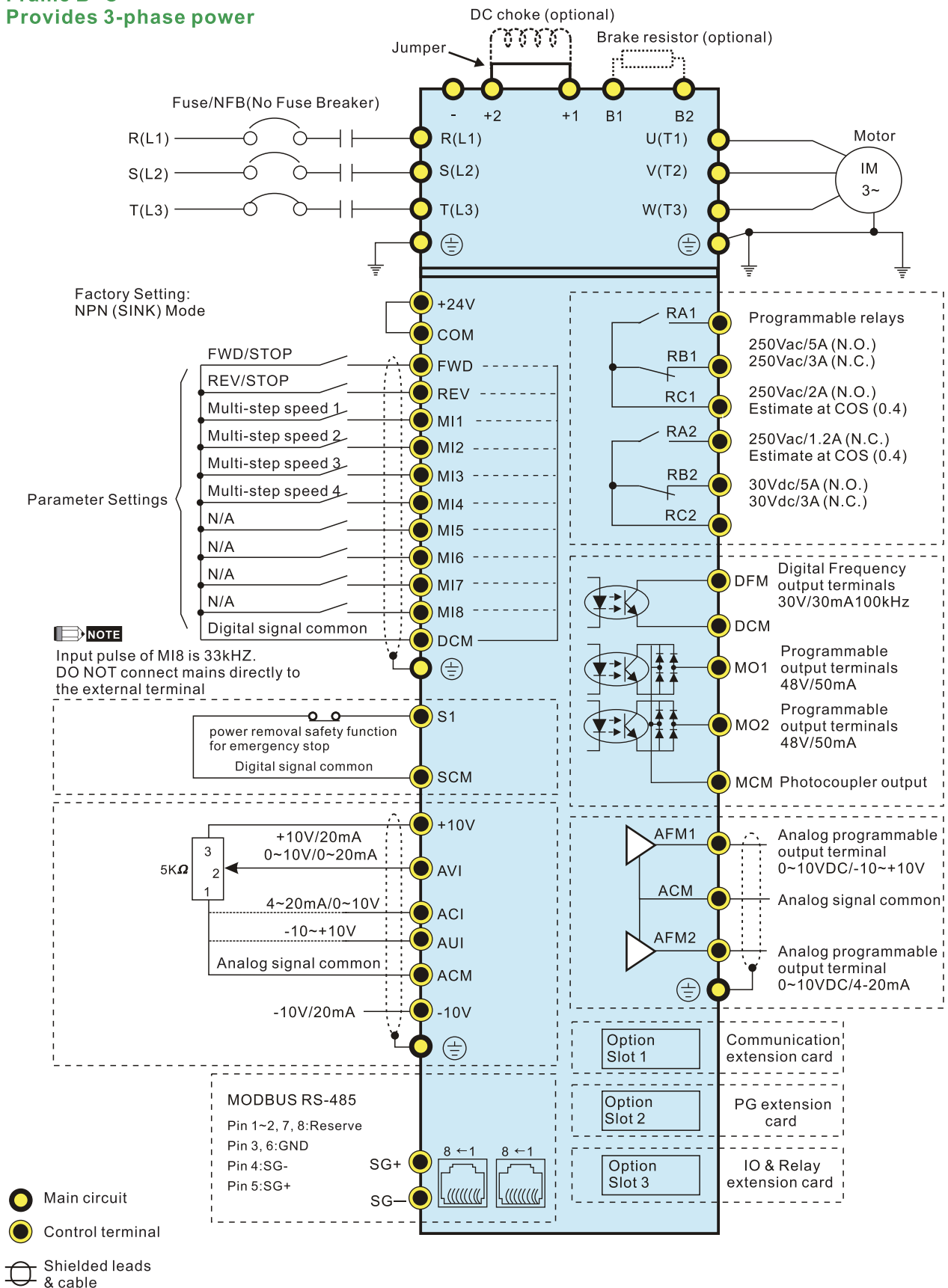
Analog I/O switch

Termination resistor

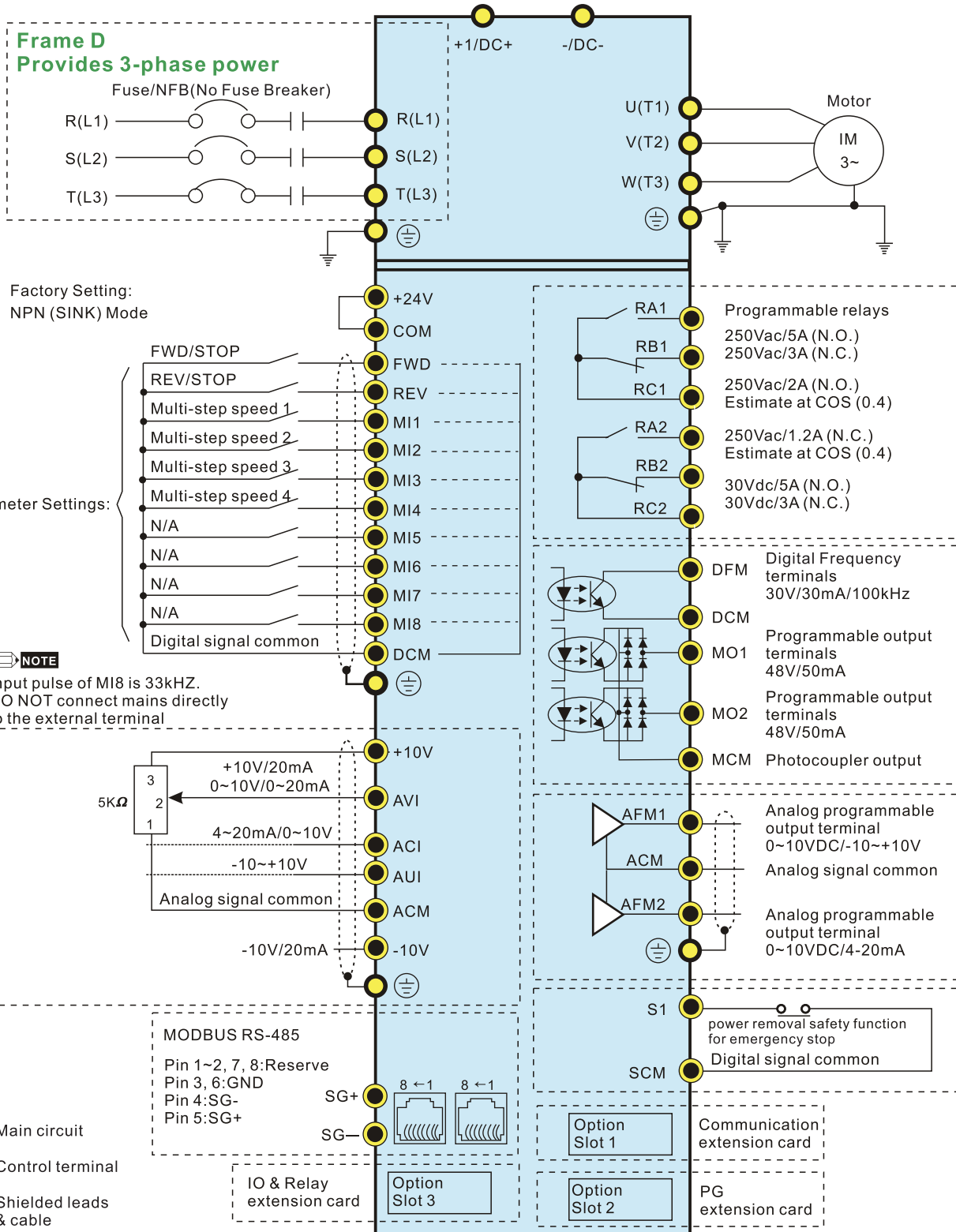
Dual RJ45 communication ports

Wiring

Frame B~C
Provides 3-phase power



Frame D Provides 3-phase power






NOTE
Input pulse of MI8 is 33kHz.
DO NOT connect mains directly to the external terminal

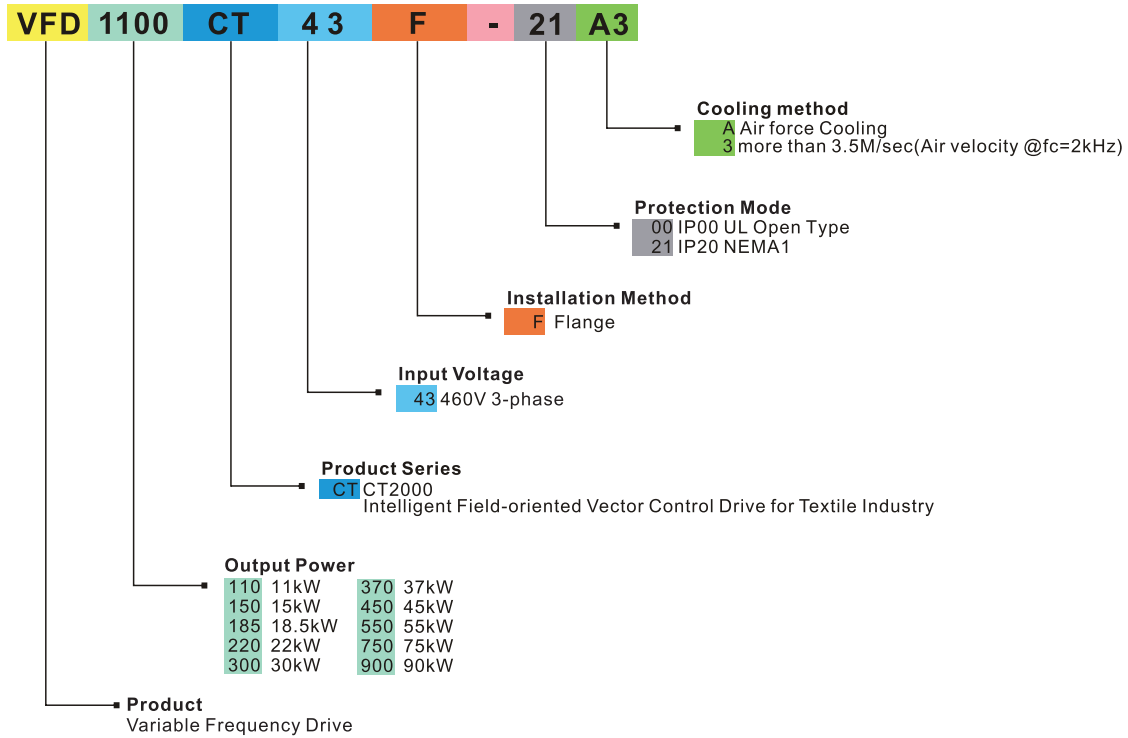
Product Specifications

460V		Frame Size	B			C			D			
		Model VFD-□□□CT43F-□□A□	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	Rate 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)	2~6kHz									
	LIGHT DUTY	Rate Output Capacity (kVA)	18	24	29	36	45	57	73	88	115	143
		Rated Output Current (A)	22.5	30	36	45	56	72	91	110	144	180
		Carrier Frequency (kHz)	2~15kHz			2~10kHz						2~9kHz
Input Rating	Input Current (A) Heavy Duty		19	25	33	38	45	60	70	96	108	149
	Input Current (A) Light Duty		25	33	40	50	62	79	91	110	144	180
	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									
	Braking Chopper		Frame B to C (built-in); Frame D (optional)									
	DC Reactor		Frame B to C (optional); Frame D (built-in)									
EMI Filter		Optional										

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 1500% 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	Max. 200% torque current
	Torque Accuracy	±5%
	Max. Output Frequency (Hz)	Light duty: 0.01~600.00Hz; Heavy duty: 0.00 ~ 300.00 Hz
	Frequency Output Accuracy	Digital command: ±0.01%, -10°C~+40°C, Analog command: ±0.1%, 25±10°C
	Output Frequency Resolution	Digital command: 0.01Hz, Analog command: 0.03 X max. output frequency/60 Hz (±11 bit)
	Overload Tolerance	Light duty: rated output current is 120% for 60 seconds Heavy duty: rated output current is 150% for 60 seconds, 180% for 3 seconds.
Frequency Setting Signal	+10V~-10 · 0~+10V · 4~20mA · 0~20mA · Pulse input	
Accel./decel. Time	0.00~600.00/0.0~6000.0 seconds	
Main Control Function	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, 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	Motor Protection	Electronic thermal relay protection
	Over-current Protection	Over-current protection for 220% rated current current clamp 『Light duty: 130~140%』; 『Heavy duty: 180~185%』
	Over-voltage Protection	460: drive will stop when DC-BUS voltage exceeds 820V
	Over-temperature Protection	Built-in temperature sensor
	Stall Prevention	Stall prevention during acceleration, deceleration and running independently
	Restart After Instantaneous Power Failure	Parameter setting up to 20 seconds
	Grounding Leakage Current Protection	Leakage current is higher than 50% of rated current of the AC motor drive
Certifications	  GB/T12668-2  (certification in progress)	

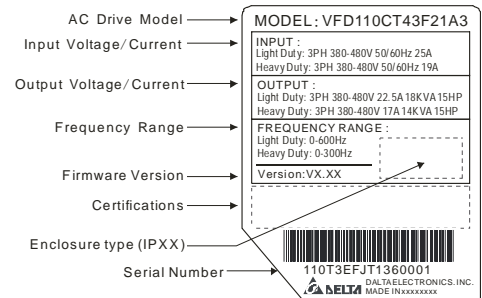
Model Name



Ordering Information

Frame B 	460V: 11kW~18.5kW	VFD110CT43F-21A3 VFD150CT43F-21A3 VFD110CT43F-21A3
Frame C 	460V: 22kW~37kW	VFD220CT43F-21A3 VFD300CT43F-21A3 VFD370CT43F-21A7
Frame D 	460V: 45kW~90kW	VFD450CT43F00A3 VFD550CT43F00A4 VFD750CT43F00A6 VFD900CT43F00A8

Nameplate Information





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