



**TECO**

# E510

Compact Vector Control Drive



## PRODUCT FEATURES



## FEATURES AND BENEFITS

	Features	Benefit
Capability	32bit RISC Processor with an advance IGBT power switching technology	Advanced Sensor less vector control, providing a powerful starting torque at low frequency with high performance operation at the highest efficiency
Quality	Isolated circuit	Provide high S/N ratio at low speed
	External cooling heatsink	Robust design providing longer lifetime in hostile environments
	Integrated latest IPM/PIM module	Provide high efficiency and reliable performance with smaller physical size
SW Function	Soft-PWM modulation	Reduce audible motor noise at low carrier frequency
	Integrated safety stop and fire mode functions	Ensure safety of applicable environment when emergency occurring
	Auto carrier frequency switching	Provide highly reliable system performance by avoiding overheating
	Built-in PID controller	Accuracy of speed as load changes to applicable industry, such as HVAC
	Simple PLC function	Provide simple sequence or process control applications without external PLC
H/W Function	Intuitive control panel	Provide easy commissioning, rapid fault diagnostics, minimize start-up time, etc.
	Integral EMC filter in compliance with IEC/EN 61800-3 & 61800-5-1 standard	Resist to electromagnetic interference at an adequate level to the drives for reliable performance
	Fan Control	Variable fan speed based on ambient temperature to avoid unnecessary energy wasted
Flexibility	Built-in Modbus RS485	Reduce installation time with flexible communication options by connecting gateway extension
	RJ45 connecting PC-software/Copy unit	



## MODEL NUMBER INDICATION

E510	2	P5	H	1	F	
Model name	Rated voltage	Horse Power		Category	Input Power Source	Filter
E510	2: 200V	P5: 0.5 HP	08: 7.5 HP	H: Standard	1: Single phase	F: Built-in
	4: 400V	01: 1 HP	10: 10 HP		3: Three phase	Blank: None
		02: 2 HP	15: 15 HP			
		03: 3 HP	20: 20HP			
		05: 5 HP	25: 25HP			

## CAPACITY RANGE

Power Rating	0.4kW 0.5HP	0.75kW 1HP	1.5kW 2HP	2.2kW 3HP	3.7kW 5HP	5.5kW 7.5HP	7.5kW 10HP	11kW 15HP	15kW 20HP	18.5kW 25HP
E510	200V 1 phase (with filter)									
	200V 1/3 phase(s)									
		200V *	n/a	200V 3 phases						
	400V 3 phases									

\*2012 Q1 available

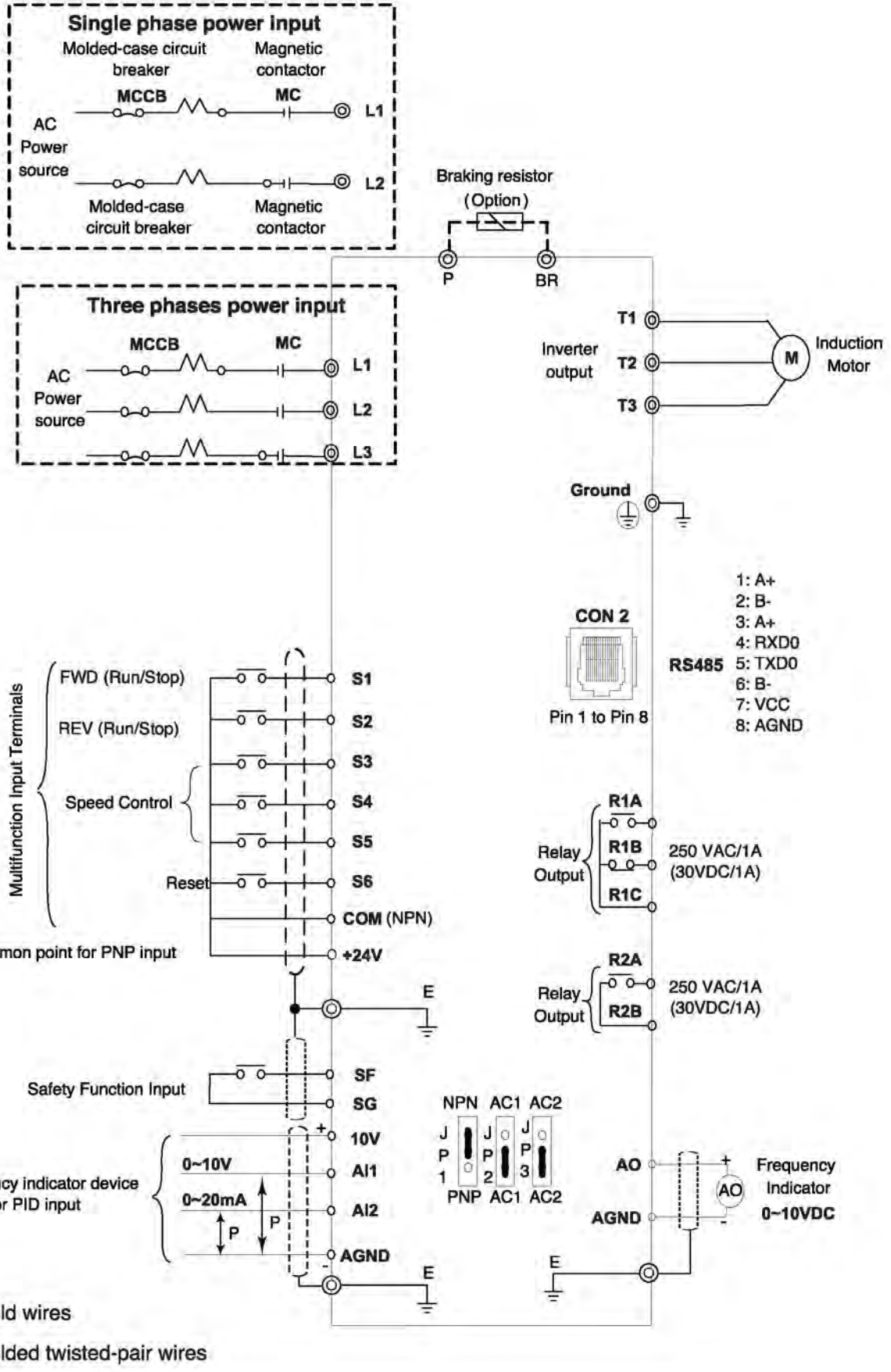
## APPLICATIONS

- Textiles
- Woodworking
- Small Handling Machine
- Simple Metal Processing
- Machine Tools
- Packaging & Labeling
- Food processing
- Fans & Pumps
- HVAC



# WIRING DIAGRAM

## Single phase/ Three phases





# MAIN SPECIFICATION

Item		E510	
Control Feature	Control Mode		V/F Control or Vector Control
	Frequency	Range	0.01~650.00Hz
		Starting torque	150% / 1Hz (Vector mode)
		Setting resolution	Digital input: 0.01Hz
			Analog input:0.06Hz/60Hz
		Setting	Keypad:Set directly with▲▼ keys or the VR on the keypad External terminal: AVI(0~10V/2~10V) · ACI(0~20mA/4~20mA)input Up/down function by multifunction input up/down function(Group3) and also by communication method
	Frequency limit	The lower and upper limit of frequency and 3 jump frequency can be set	
	Run	Operation set	Panel: run, stop button control
			External terminal: Multi-operation mode, 2 or 3 wire selection, Jog operation
			Communication operation
	Main Control Functions & Features	V / F curve setting	18 preset curves, one programmable curve
		Carrier frequency	1~16KHz
		Acceleration and deceleration control	2 sets of acceleration / deceleration time
			4 S curve settings
		Multifunction input	26 functions (refer to description on group3)
		Multifunction output	19 functions (refer to description on group3)
		Multifunction analog output	5 functions (refer to description on group3)
Other features	Overload detection, 16 preset speeds, auto-run, two Acc/Dec presets, Main/Alternative run command select, Main/Alternative run and frequency command selections, PID control, torque boost, V/F start frequency, and fault reset, etc.		
Display	Display	LED	Display: parameter, parameter value, frequency, line speed, DC voltage, output voltage, output current, PID feedback, input and output terminal status, heat sink temperature, program version, fault history, etc.
		Status Indicator	Hz/RPM, forward, reverse, run , stop and FUN (function display), etc.
Protection Function	Protective Functions	Overload Protection	The relays to protect the motor (the curve can be set) and the inverter (150%/1min)
		Over voltage	220V: >410V, 380V: >820V
		Under Voltage	220V: <190V, 380V: <380V
		Momentary Power Loss Restart	Inverter can auto-restart after power instantaneously loss up to 2 sec.
		Stall Prevention	Stall prevention for Acceleration/ Deceleration/ Operation
		Short-circuit output terminal	Electronic circuit protection
		Grounding Fault	Electronic circuit protection
	Other protection features	Heat sink over temperature,auto carrier frequency reduction with the temperature function,fault output,reverse prohibit,prohibit for direct start after power up and error recovery ,parameter access lock	
Communication interface		Standard built-in RS485 communication (Modbus), One to one or One to many control.	
Environment Conditions	Environment	Operating temperature	-10~50°C
		Storage temperature	-20~60°C
		Humidity	95% RH or less (no condensation)
		Shock	20Hz or less 1G(9.8m/s²)20~50Hz 0.6G(5.88m/s²)
		Protection degree	IP20, open-chassis



## GENERAL SPECIFICATIONS

Model	200V Class: Single Phase				200V Class: Single/Three Phase(s)			
	E510-□□□- H1(F)				E510-□□□- H			
	2P5	201	202	203	2P5	201	202	203
Horse power/Motor capacity (KW)/(HP)	0.5 (0.4)	1 (0.75)	2 (1.5)	3 (2.2)	0.5 (0.4)	1 (0.75)	2 (1.5)	3 (2.2)
Rated output current (A)	2.6	4.3	7.5	10.5	2.6	4.3	7.5	10.5
Rated capacity (KVA)	1	1.65	2.9	4	1	1.65	2.9	4
Input voltage range(V)	Single Phase 200~240V (+10%-15%), 50/60HZ				Single/Three Phase(s) 200~240V (+10%-15%),50/60HZ			
Output voltage range(V)	Three Phases 0~240V				Three Phases 0~240V			
Input current (A)	7.2	11	15.5	21	7.2	11	15.5	21
Inverter N.W (KG)	0.67	0.67	1	1.05	0.61	0.66	0.95	1
Inverter with filter (KG)	0.73	0.73	1.25	1.3				
Allowable momentary power loss time (S)	1	1	2	2	1	1	2	2
Enclosure	IP20							
Frame dimension	1		2		1		2	

Model	200V Class: Three Phases					
	E510-□□□- H3					
	202*	205	208	210	215	220
Horse power/Motor capacity (KW)/(HP)	2 (1.5)	5 (3.7)	7.5 (5.5)	10 (7.5)	15 (11)	20 (15)
Rated output current (A)	7.5	17.5	26	35	48	64
Rated capacity (KVA)	2.9	6.7	9.9	13.3	20.6	27.4
Input voltage range(V)	Three Phases: 200~240V (+10%-15%),50/60HZ					
Output voltage range(V)	Three Phases: 200~240V					
Input current (A)	9.4	20.5	33	42	57	70
Inverter N.W (KG)	1.2	1.9	6.25	6.25	15	15
Inverter with filter (KG)						
Allowable momentary power loss time (S)	2	2	1	1	2	2
Enclosure	IP20					
Frame dimension	1	2	3		4	

\*2012 Q1 available

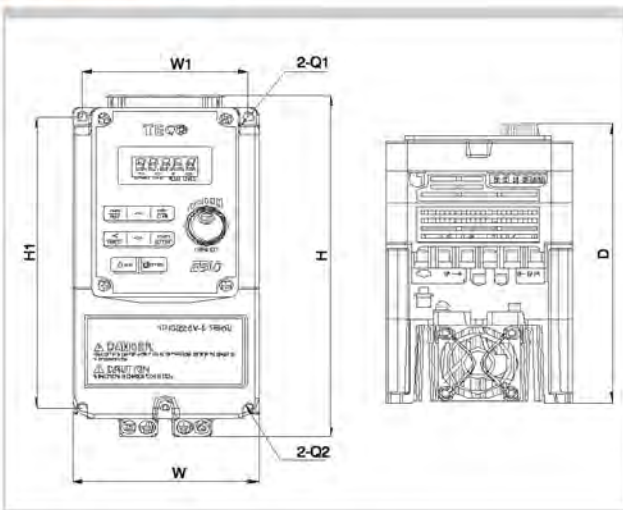
Model	400V Class: Three Phases								
	E510-□□□- H3 (F)								
	401	402	403	405	408	410	415	420	425
Horse power/Motor capacity (KW)/(HP)	1 (0.75)	2 (1.5)	3 (2.2)	5 (3.7)	7.5 (5.5)	10 (7.5)	15 (11)	20 (15)	25 (18.5)
Rated output current (A)	2.3	3.8	5.2	8.8	13	17.5	25	32	40
Rated capacity (KVA)	1.7	2.9	4	6.7	9.9	13.3	19.1	27.4	34
Input voltage range(V)	Three Phases: 380~480V (+10%-15%),50/60HZ								
Output voltage range(V)	Three Phases: 0~480V								
Input current (A)	4.2	5.6	7.3	11.6	17	23	31	38	48
Inverter N.W (KG)	1.2	1.2	1.8	1.8	6.25	6.25	6.25	15	15
Inverter with filter (KG)	1.3	1.3	2.2	2.2	6.75	6.75	6.75	17	17
Allowable momentary power loss time (S)	2	2	2	2	1	1	1	2	2
Enclosure	IP20								
Frame dimension	1		2		3			4	

## DIMENSION

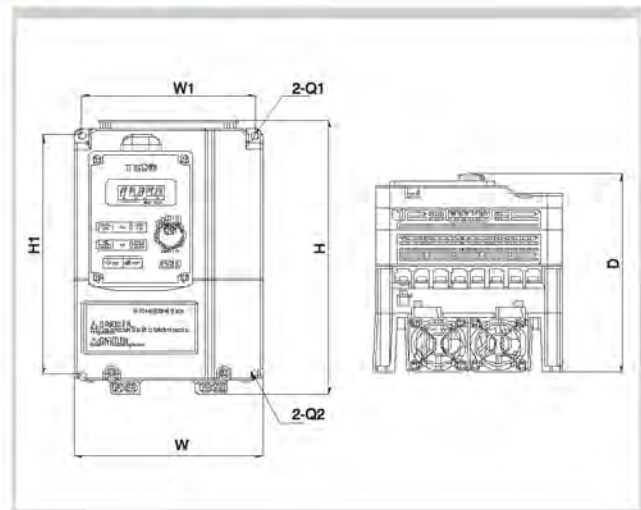
Size	W	W1	H	H1	D	Q1	Q2
Frame 1	90.6	81	180	153	146.8	4.3	2.2
Frame 2	128.7	118	204	177.6	147.8	4.5	2.25
Frame 3	186.9	176	273	249.8	195	4.5	2.3
Frame 4	224.6	207	405	303.5	198.3	4.5	2.3

Unit:mm

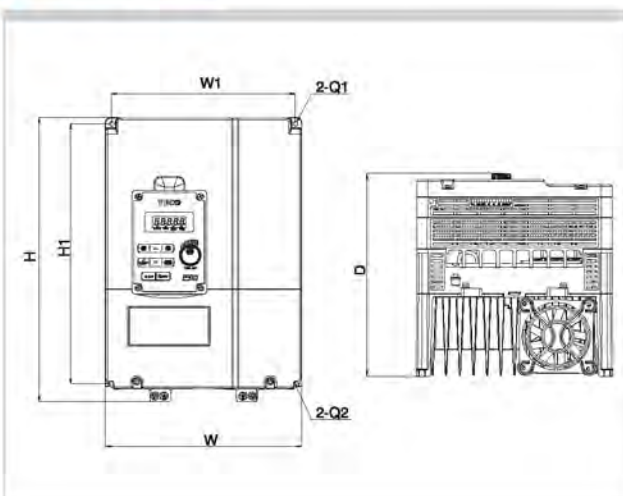
### Frame 1



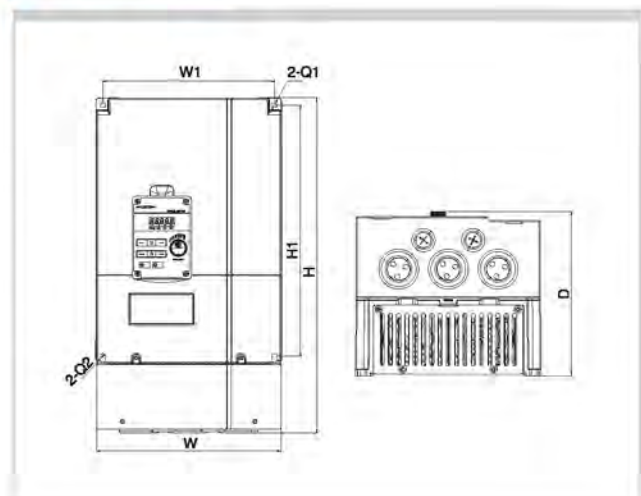
### Frame 2



### Frame 3



### Frame 4





Distributor

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