

RoBoox AC Drive

E100/E102 Series - 0.75KW to 110KW

E180 Series - 0.75KW to 630KW

EM60 Series - 0.75KW to 18.5KW



EM60



E102



E100



E180

Features:

1. "High precision", "High performance", "High cost-effective".
2. High control precision
3. Rapid torque response
4. High starting torque
5. Various vector controls of motors are available
6. Diversified menu display modes
7. Function of built-in timer
8. Built-in virtual time-delay relay
9. Function of built-in operating module
10. Function of rapid current limiter Excellent capability of power drive control



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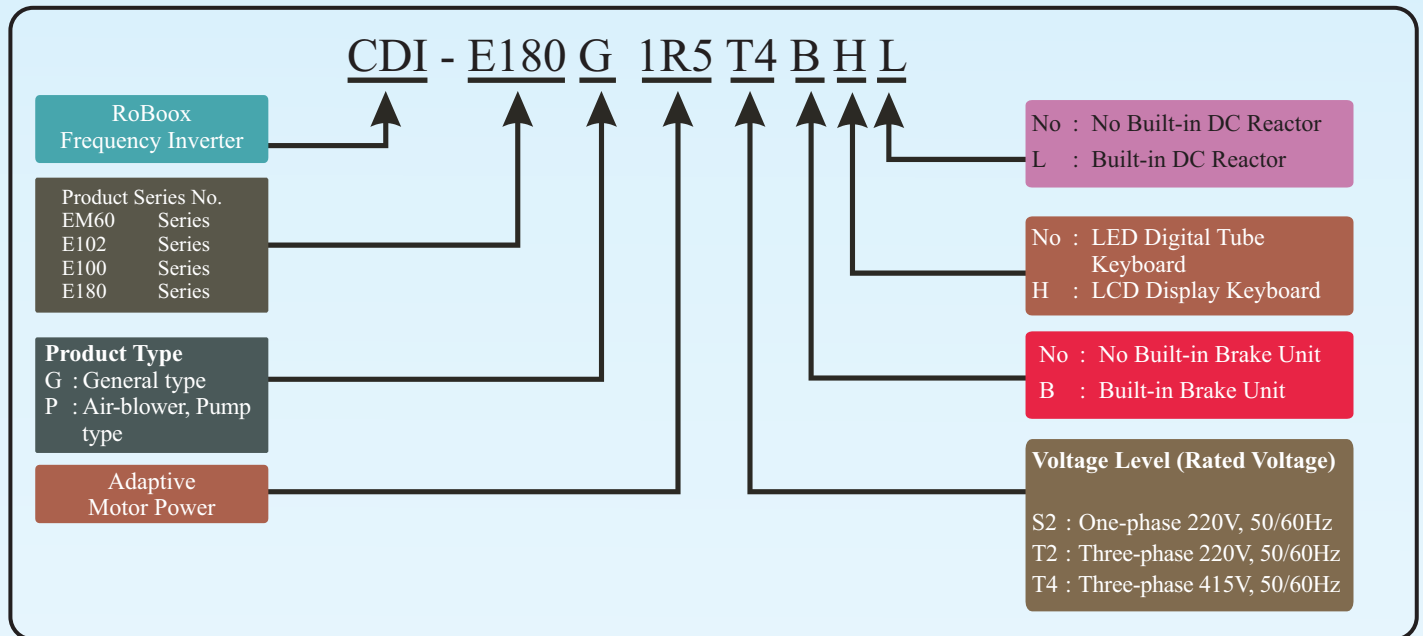
Technical specification of E-Series Frequency Inverter

	Item	Specification
Control	Control Method	V/F Control Open-loop Vector Control (SVC) Closed-loop Vector Control (VC)(Invalid CDI-E100 Series)
	Frequency Resolution	Digital: 0.02% Analog: 0.1%
	V/F curve	Linear, square root, random V/F
	Overload Capability	G Model: 60s for 150% of the rated current; 3s for 180% of the rated current; P Model: 60s for 120% of the rated current; 3s for 150% of the rated current;
	Start Torque	G Model: 0.5Hz/150% (SVC); 0Hz/180% (VC) P Model: 0.5Hz/100%
	Speed Regulation Range	1:100 (SVC) 1:1000 (VC)
	Stable Speed Accuracy	±0.5% (SVC) ±0.02% (VC)
	Torque Control Accuracy	±5% (VC)
	Torque Compensation	Manual torque compensation (0.1%~30.0%), automatic torque compensation
Running	Operating mode	Keyboard, terminal, RS485 communication
	Frequency Source	14 kinds of main frequency sources and 14 kinds of auxiliary sources. Adopt various combination modes to switch. Diversification to Each Frequency Source Input Mode: keyboard potentiometer, external analog, digital reference, impulse reference, Multiplex Directive, simple PLC, communication, arithmetic results, etc.
	Torque Source	14 kinds of Torque Sources, including digital reference, external analog, impulse reference, Multiplex Directive, communication, arithmetic results, etc.
	Acceleration and Deceleration Time	Four groups of straight lines (select the terminal to switch through acceleration and deceleration time), S Curve 1 and S Curve 2
	Emergency stop	Interrupt output of frequency inverter
	Multiplex Speed	16 speed is allowable to set at most and use various combination of multiplex directive terminal to switch
	Simple PLC Function	Continuously run 16-phase speed and independently set acceleration and deceleration time and running time
	Jogging Control	Independently set Jogging frequency and jogging acceleration and deceleration time, additionally, set the unit under running state and confirm whether the jogging is preferential
	Rotating Speed Tracking	Frequency inverter starts operation by tracking the load speed
	Fixed-length and Fixed - distance Control	Realize fixed-length and fixed-distance control function through Impulse Input
	Control mode	Realize counting function through Impulse Input
	Wobblulating Function	Apply for textile winding equipment
	Built-in PID	Realize process control closed loop system
	AVR Function	When the grid voltage fluctuates, ensure constant output
	DC Braking	Realize fast and stable shut-down
	Slip Compensation	Compensate the speed deviation caused by the increase of load
	Hopping Frequency	Prevent resonance from occurring with load
	Sagged Function	Balance the load of multiple motors with same load
	Timing Control	Be able to realize automatic shutdown of the frequency inverter when reaching given time

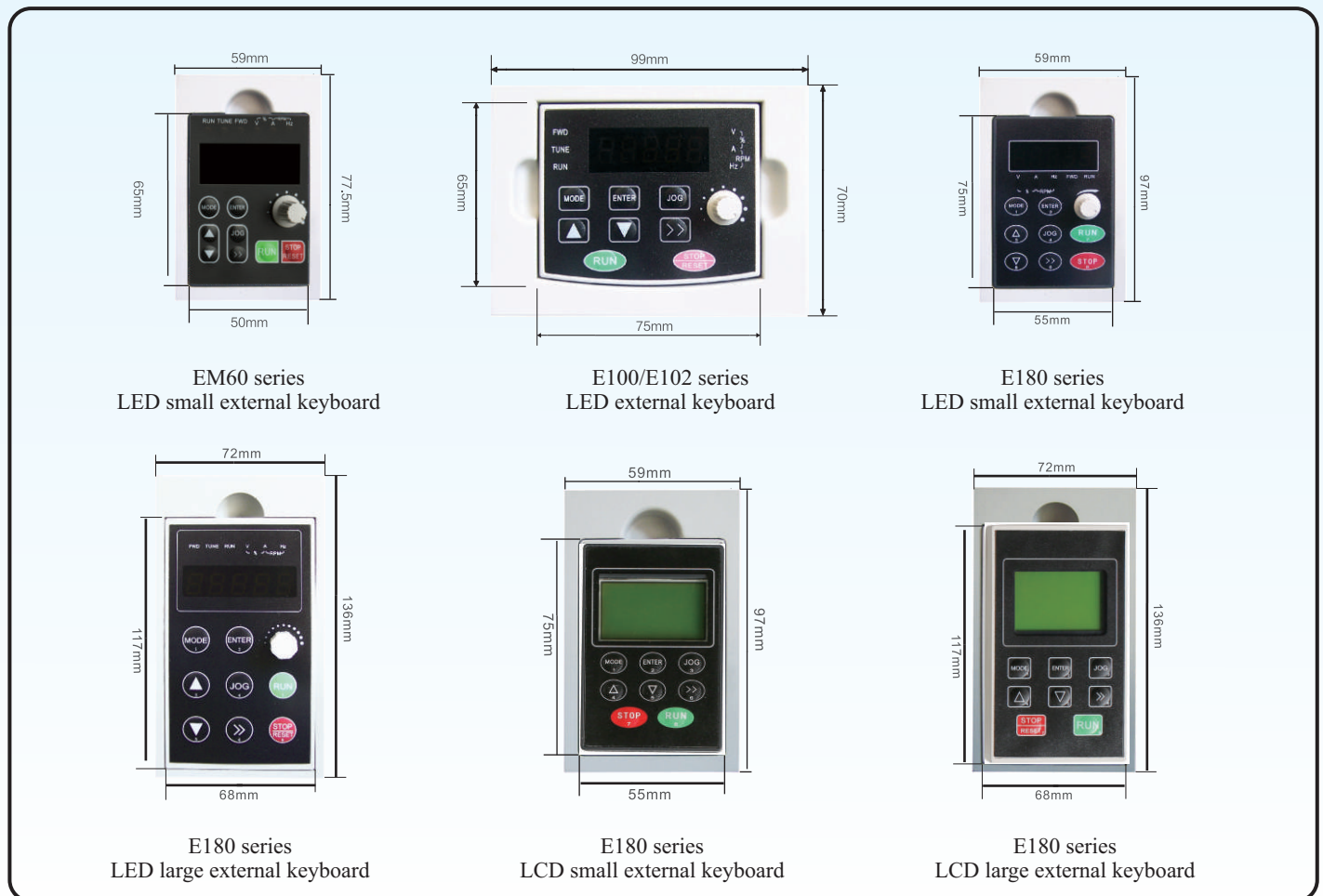
Technical specification of E-Series Frequency Inverter

	Item	Specification
Running	Built-in Virtual Delay Relay	Realize simple logic Programming to multi-functional output terminal function and digital input terminal signal, the logic results can not only be equivalent to digital input terminal function, but can be output through multi-functional terminal output
	Built-in Timer	Build in 2 timers and acquire the timing input signal to realize timing signal output. Use alone or in combination
	Operation Module Built-in Operation Module	One built-in 4-way Operation Module to realize simple addition, subtraction, multiplication and division, size judgment and integral operation
Communication	EM60	The control panel isn't equipped with RS485 communication interface, and an external communication expansion card is needed. The standard MODBUS-RTU protocol (connected with EM60-485 expansion card) is supported.
	E100	The control panel is directly equipped with RS485 Communication Interface and supports Standard MODBUS Protocol
	E102	The control panel is directly equipped with RS485 Communication Interface and supports Standard MODBUS Protocol
	E180	The control panel is not equipped with built-in RS485 Communication Interface, so external communication expansion card is required. It supports Standard MODBUS Protocol (External Connection of E180-485 Expansion Card)
Encoder	EM60	Only the 1-way pulse signal(DI6) of encoder can be connected.
	E100	Be able to connect the encoder through Terminal DI5 & DI6 on control panel, such an encoder connection method can realize simple closed-loop control through PID Control and used for occasions without high requirements to control accuracy.
	E102	Only connect to 1-way pulse signal of encoder (DI6)
	E180	The control panel is not equipped with encoder interface, so external encoder expansion card is required. It supports ABZ Incremental Encoder, UVW Incremental Encoder and Rotary Transformer. This encoder connection method can realize high-performance closed-loop vector control and be used for occasions with high requirements to control accuracy.
Type of Motor	EM60	Only be equipped with asynchronous motor
	E100	Not only be equipped with asynchronous motor, but synchronous motor
	E102	Not only be equipped with asynchronous motor, but synchronous motor
	E180	Not only be equipped with asynchronous motor, but synchronous motor
Display	Running information	Given frequency, output current, output voltage, bus voltage, input signal, feedback value, module temperature, output frequency, motor synchronous speed, etc. Through >> Key, display 32 loops at most
	Error information	Save the historical information of 3 faults under running state of fault protection. Every piece of fault information includes frequency, current, bus voltage and input/output terminal status when fault happens.
Protection	Frequency inverter protection	Over current, over voltage, module fault protection, undervoltage, overload, external fault protection, EEPROM fault protection, ground protection, default phase, etc.
	Frequency inverter alarm	Locked protection, overload alarm
	Instantaneous power-off	Lower than 15 ms: Continuous operation Bigger than 15 ms: Automatic restart is allowable
Environment	Ambient temperature	-10°C~40°C
	Storage temperature	-20°C ~65°C
	Ambient humidity	90 % RH in max .(no dewing)
	Height/vibration	Below 1,000 m, below 5.9m/sec ² (=0.6g)
	Application position	No corrosive gas, inflammable gas, oil mist, dust and others
Cooling		Air-blast cooling / Forced air Cooling

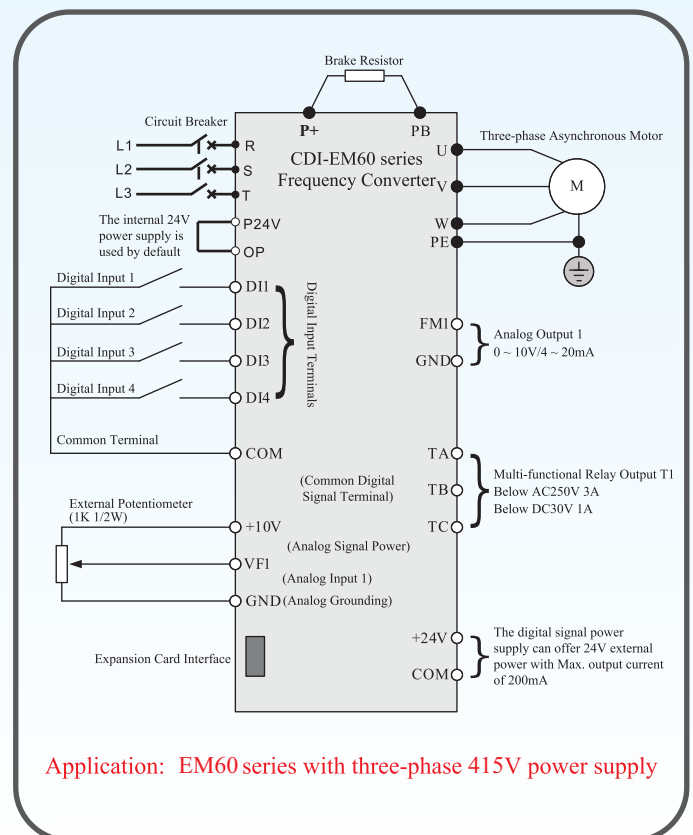
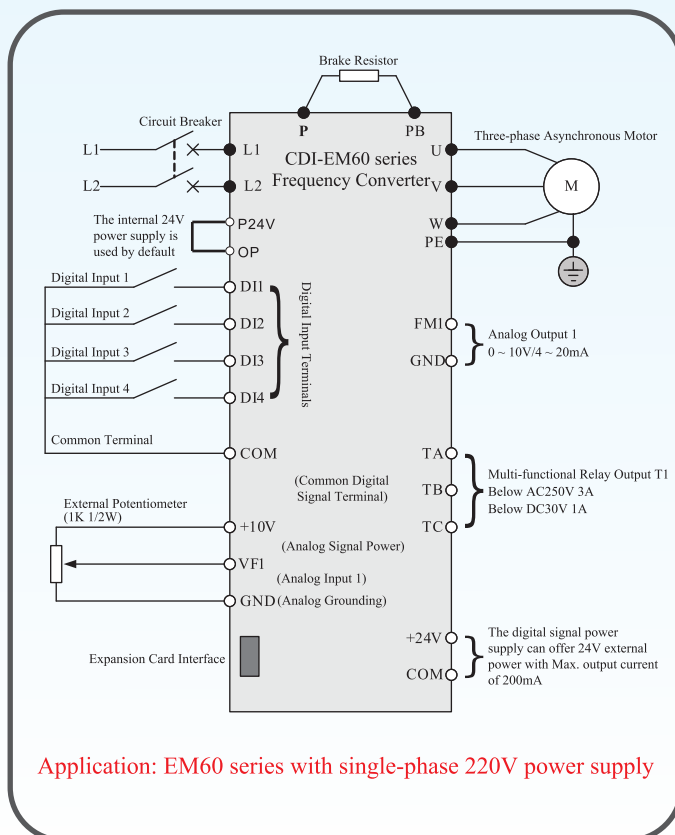
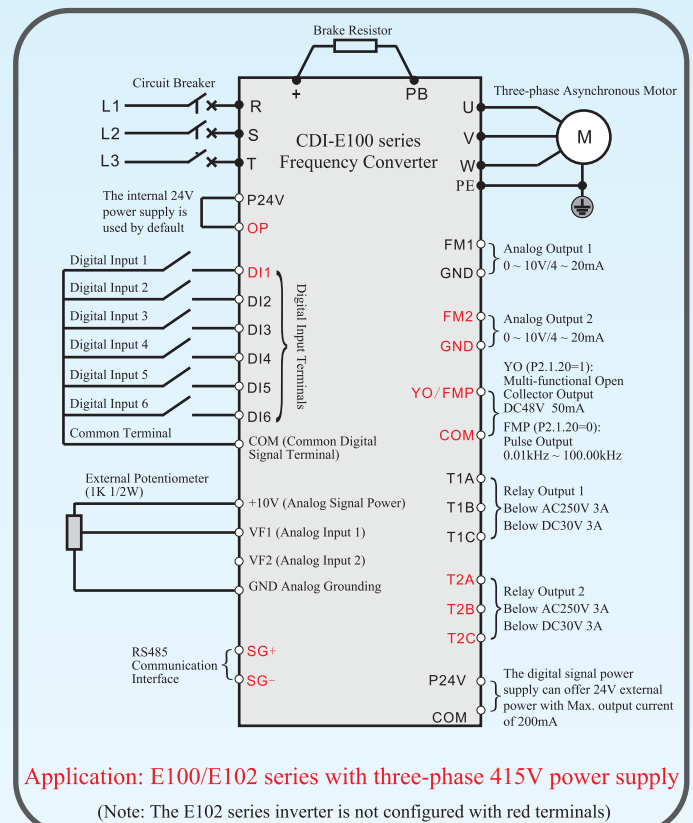
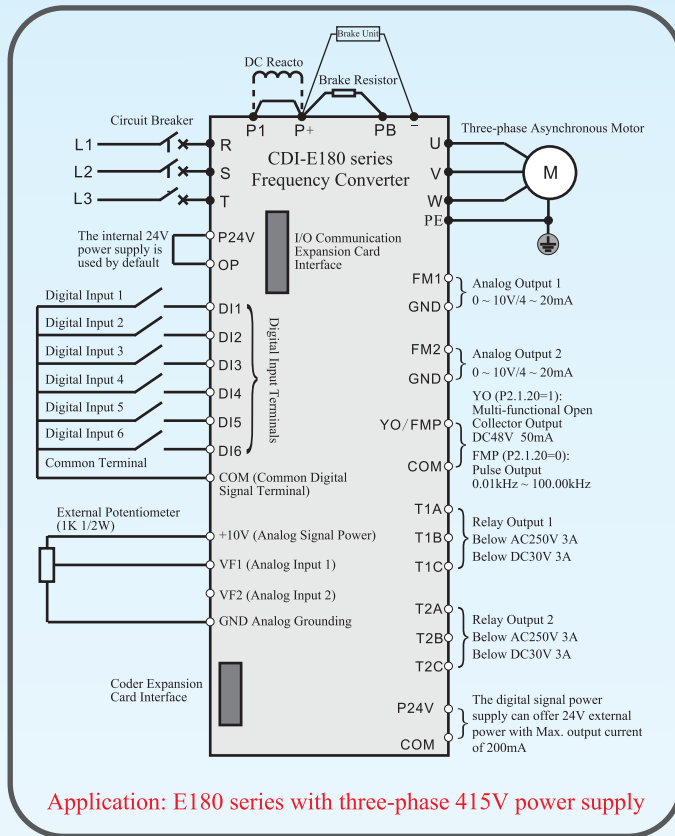
Naming Rules of E-series



Dimension of E-Series pulling keyboard



Wiring Diagram of E-Series Frequency Inverter



RoBoox E-Series AC Drive Model, Capacity & Dimensional Table

Series	Model	Adaptive Motor (KW)	Rated Capacity (KVA)	Rated Input Current (A)	Rated Output Current (A)	Brake Unit	DC Reactor	Dimensions (WxHxD)mm	Ød (mm)	N.W. (G.W.) Kg	
EM60 Series	S2 (1-Phase 220V, 50/60Hz)										
	CDI-EM60G0R4S2	0.4	0.8	5	2	N/A	N/A	(84x152x148.4)	5.5	0.9 (1.2)	
	CDI-EM60G0R4S2B	0.4	0.8	5	2	Built-in					
	CDI-EM60G0R75S2	0.75	1.5	9	4	N/A					
	CDI-EM60G0R75S2B	0.75	1.5	9	4	Built-in					
	CDI-EM60G1R5S2	1.5	2.7	15.7	7	N/A		(105x165x161.4)	5.5	1.3 (1.8)	
	CDI-EM60G1R5S2B	1.5	2.7	15.7	7	Built-in					
	CDI-EM60G2R2S2	2.2	3.8	27	10	N/A					
	CDI-EM60G2R2S2B	2.2	3.8	27	10	Built-in					
	T4 (3-Phase 415V, 50/60Hz)										
	CDI-EM60G0R75T4B	0.75	1.5	3.4	2.3	Built-in	Optional Built-in	(84 x 152 x 148.4)	5.5	1 (1.5)	
	CDI-EM60G1R5T4B	1.5	3	5	3.7			(105 x 165 x 161.4)		1.6 (1.8)	
	CDI-EM60G2R2T4B	2.2	4	5.8	5.1						
	CDI-EM60G3R7T4B	3.7	5.9	10.5	8.8			(145 x 230 x 177.4)		2.7 (3.3)	
	CDI-EM60G5R5/P7R5T4B	5.5/7.5	8.5/11	15.5/20.5	13/17			(180 x 285 x 167.4)	4 (5)		
	CDI-EM60G7R5/P011T4B	7.5/11	11/17	20.5/26	17/25						
	CDI-EM60G011/P015T4B	11/15	17/21	26/35	25/32						
	CDI-EM60G015/P018.5T4B	15/18.5	21/24	35/38.5	32/37						
E100 / E102 Series	T4 (3-Phase 415V, 50/60Hz)										
	CDI-E100G0R75T4B	0.75	1.5	3.4	2.3	Standard Built-in	N/A	(109x167x161)	5	1.2 (1.4)	
	CDI-E100G1R5T4B	1.5	3	5.0	3.7			(135x167x171)	5	2 (2.35)	
	CDI-E100G2R2T4B	2.2	4	5.8	5.1				5.5	4.1 (5.1)	
	CDI-E100G3R7T4B	3.7	5.9	10.5	8.8			(180x280x197.5)			
	CDI-E100G5R5/P7R5T4B	5.5/7.5	8.5/11	15.5/20.5	13/17		Standard Built-in	(230x310x206)	5.5	7 (8)	
	CDI-E100G7R5/P011T4B	7.5/11	11/17	20.5/26	17/25						
	CDI-E100G011/P015T4BL	11/15	17/21	26/35	25/32		Optional Built-in	Optional Built-in	(260x340x223)	5.5	7.5 (8.6)
	CDI-E100G015/P018.5T4BL	15/18.5	21/24	35/38.5	32/37				8 (9.5)		
	CDI-E100G018.5/P022T4	18.5/22	24/30	38.5/46.5	37/45	(250x430x220)			7	14.5 (16)	
	CDI-E100G022/P030T4	22/30	30/40	46.5/62	45/60					15 (16.5)	
	CDI-E100G030/P037T4	30/37	40/50	62/76	60/75	(300x530x270)			9	25 (31.5)	
	CDI-E100G037/P045T4	37/45	50/60	76/92	75/90					25.5 (32.5)	
	CDI-E100G045/P055T4	45/55	60/72	92/113	90/110	(340x580x313)				35 (43)	
	CDI-E100G055/P075T4	55/75	72/100	113/157	110/152					36.5 (44.5)	
	CDI-E100G075/P093T4	75/93	100/116	157/180	152/176					37 (45)	
	CDI-E100G093/P110T4	93/110	116/138	180/214	176/210						
	CDI-E100G110/P132T4	110/132	138/167	214/256	210/253						

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Series	Model	Adaptive Motor (KW)	Rated Capacity (KVA)	Rated Input Current (A)	Rated Output Current (A)	Brake Unit	DC Reactor	Dimensions (WxHxD)mm	Ød (mm)	N.W. (G.W.) Kg
E180 Series	T4 (3-Phase 415V, 50/60Hz)									
	CDI-E180G0R75T4B	0.75	1.5	3.4	2.3	Standard Built-in	N/A	(130x180x148)	5	2 (2.8)
	CDI-E180G1R5T4B	1.5	3	5.0	3.7					
	CDI-E180G2R2T4B	2.2	4	5.8	5.0					
	CDI-E180G3R7/P5R5T4B	3.7/5.5	5.9/8.5	10.5/15.5	8.8/13			(155x225x160)	5	2.6 (3.6)
	CDI-E180G5R5MT4B	5.5	8.5	15.5	13					
	CDI-E180G5R5/P7R5T4B	5.5/7.5	8.5/11	15.5/20.5	13/17					
	CDI-E180G7R5/P011T4B	7.5/11	11/17	20.5/26	17/25			(200x300x172)	6	5.4 (6.6)
	CDI-E180G011MT4B	11	17	26.0	25					
	CDI-E180G011/P015T4BL	11/15	17/21	26/35	25/32					
	CDI-E180G015/P018.5T4BL	15/18.5	21/24	35/38.5	32/37		Standard Built-in	(250x420x197)	7	11 (12)
	CDI-E180G018.5/P022T4	18.5/22	24/30	38.5/46.5	37/45					
	CDI-E180G022/P030T4	22/30	30/40	46.5/62	45/60	Optional Built-in	Optional Built-in	(300x460x219)	7	13.8 (16)
	CDI-E180G030/P037T4	30/37	40/50	62/76	60/75					15 (17)
	CDI-E180G037/P045T4	37/45	50/60	76/92	75/90			(355x530x257)	9	24 (32)
	CDI-E180G045/P055T4	45/55	60/72	92/113	90/110					31 (39)
	CDI-E180G055/P075T4	55/75	72/100	113/157	110/152			(390x600x267)	9	32 (40)
	CDI-E180G075/P093T4	75/93	100/116	157/180	152/176					57 (69)
	CDI-E180G093/P110T4	93/110	116/138	180/214	176/210			(470x750x305)	13	92 (107)
	CDI-E180G110/P132T4	110/132	138/167	214/256	210/253					180 (200)
	CDI-E180G132/P160T4	132/160	167/200	256/305	253/300			(530x950x375)	13	240 (260)
	CDI-E180G160/P185T4	160/185	200/224	305/344	300/340					500 (540)
	CDI-E180G185/P200T4	185/200	224/250	344/383	340/380			(620x1250x420)	15	520 (560)
	CDI-E180G200/P220T4L	200/220	250/276	383/425	380/420					
	CDI-E180G220/P250T4L	220/250	276/316	425/484	420/480			(700x1400x420)	15	
	CDI-E180G250/P280T4L	250/280	316/355	484/543	480/540					
	CDI-E180G280/P315T4L	280/315	355/395	543/605	540/600			(800x1800x600)	13	
	CDI-E180G315/P355T4L	315/355	395/447	605/683	600/680					
	CDI-E180G355/P375T4L	355/375	447/467	683/714	680/710			(1000x1800x600)	13	
	CDI-E180G375/P400T4L	375/400	467/494	714/753	710/750					
	CDI-E180G400/P500T4L	400/500	494/612	753/934	750/930			(1000x1800x600)	13	
	CDI-E180G500/P630T4L	500/630	612/790	934/1206	930/1200					
	CDI-E180G630T4L	630	790	1206	1200					



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