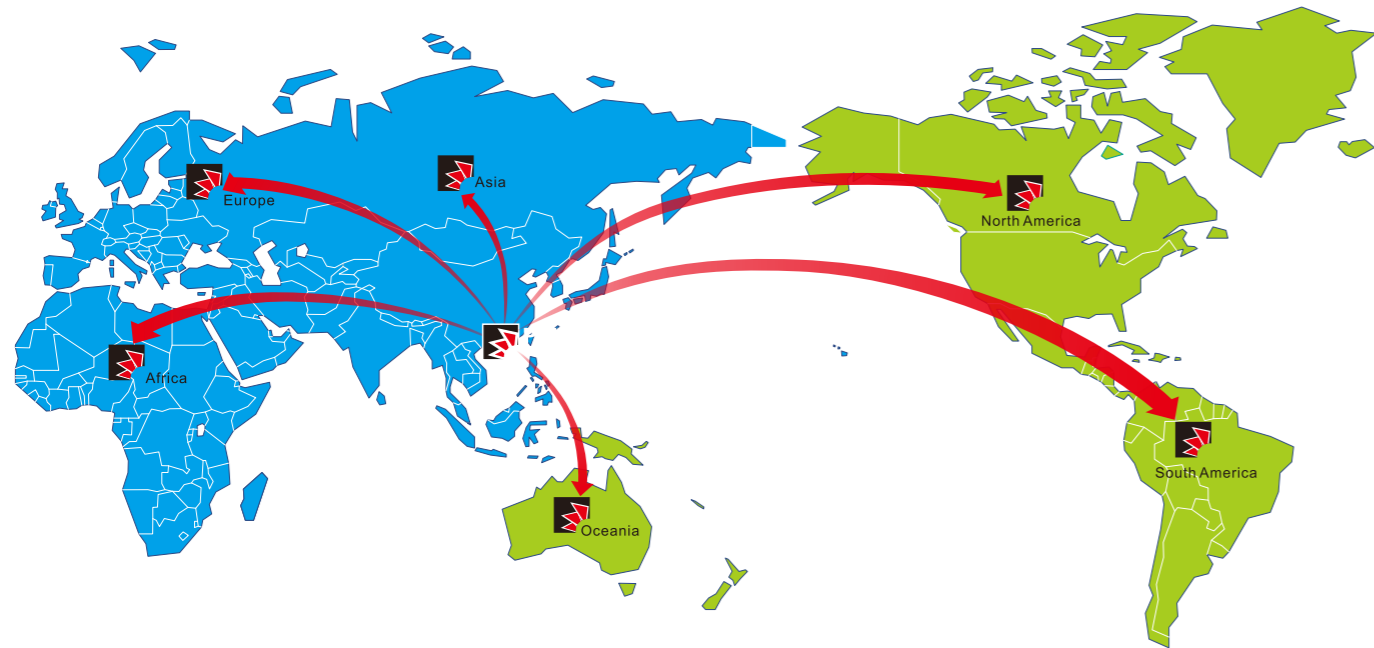


Service Network:



201811ED1.0

Powtran technology

A manufacturer of motor control intelligent products and devices based on motor design.

GUANGZHOU HAOQING MOTOR CO.,LTD

PI500-E series

PMSM special used inverter



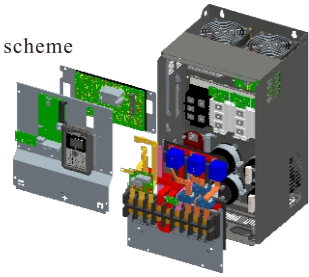
Product Overview

PI500-E permanent magnet synchronous frequency converter is known to science and technology based on motor operation and control, new research and development of a permanent magnet synchronous frequency converter. Achieved high performance, high quality, small size installation area, design of high power density, high efficiency, energy saving, small startup current, high returnBig start torque, low control accuracy is high, the motor temperature rise, its rich functions, application is simple, the advantages of stable performance more flexibleThe user's experience.

Technical Features

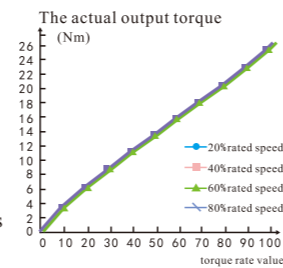
Compact structure

- *Optimization of structural design, leading technology platform
- *Built-in dc reactor
- *Perfect braking circuit scheme



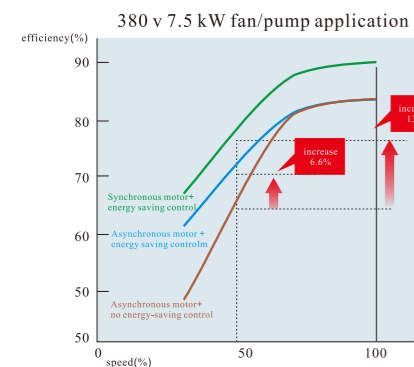
Outstanding performance

- *Steady speed precision, wide speed range
- *The output vector control under high speed
- *Large torque at low speed, small torque ripple
- *A variety of motor drive
- *Support for multiple PG card
- *Since the setting of motor parameters with high accuracy



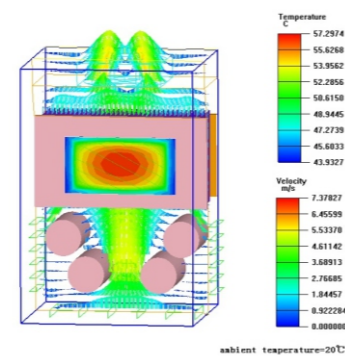
Function and easy to use

- *Instantaneous stop function
- *Excitation function
- *VF complete separation and separation
- *Fan, pump energy use
- *Flexible terminal functional diversification,
- *Use more freely
- *Flexible communication interface application
- *Built-in adaptive PID function module
- *The machine protection more perfect



High reliability

- *The whole machine thermal reliability
- *The whole machine temperature rise test
- *Anti-corrosion paint spraying process automatically
- *Large margin derating design
- *Long life design
- *Independent air duct design
- *In accordance with international standards
- *Wide input voltage
- *EMC design specifications



Achieved a number of authoritative organization testing certification

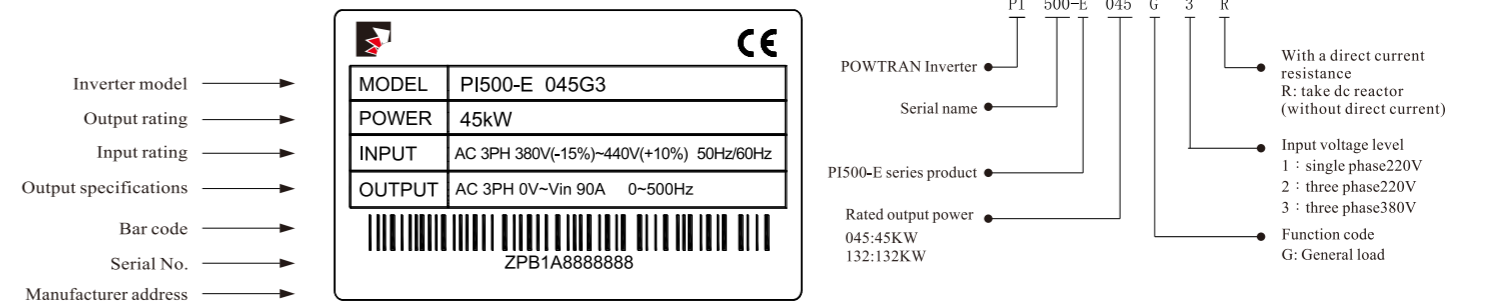


Standard Specification

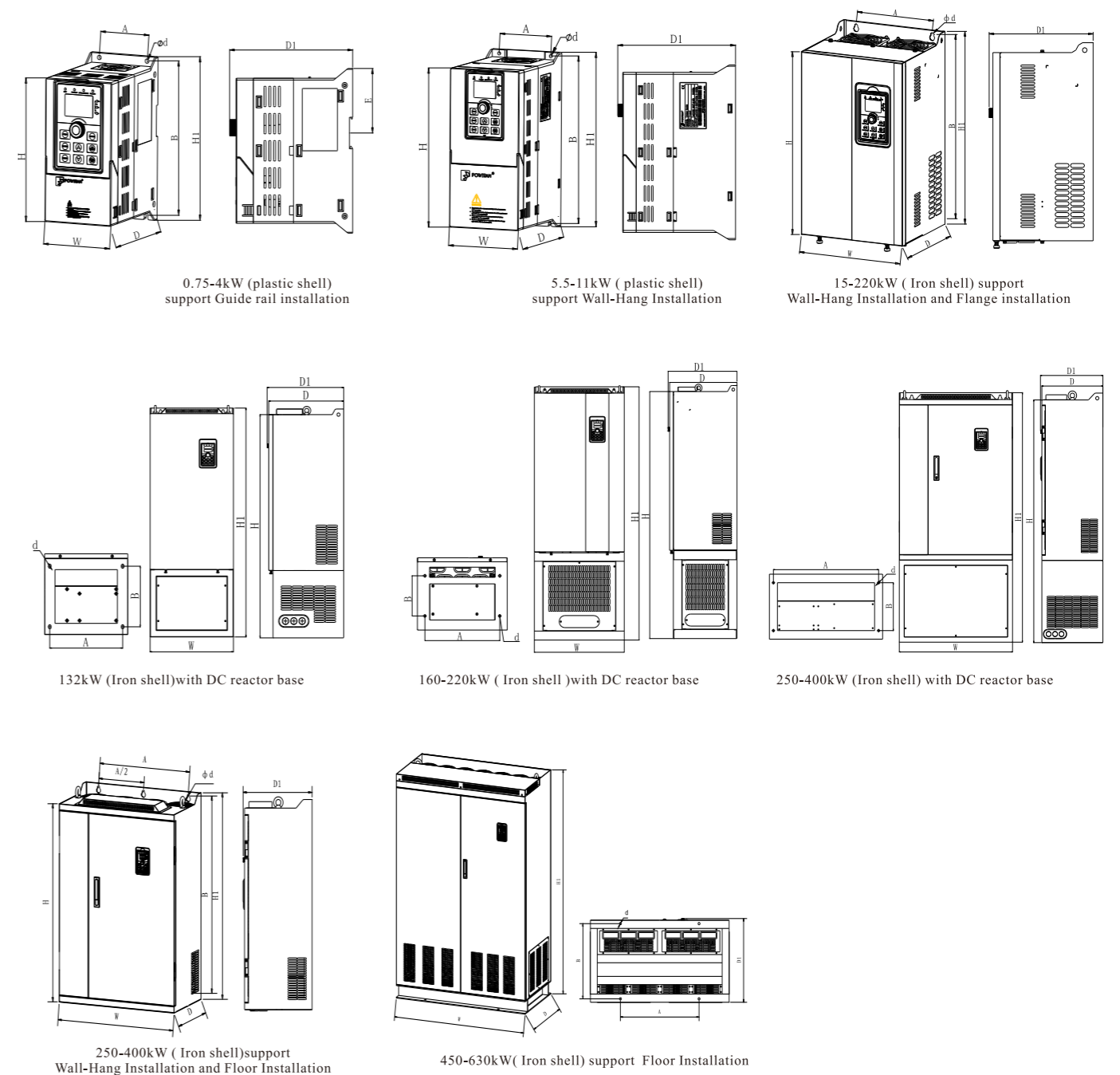
Item	Function	Specification	
Power Input	Rated Voltage Level	AC 1PH 220V(-15%)~240V(+10%) AC 3PH 220V(-15%)~240V(+10%) AC 3PH 380V(-15%)~440V(+10%)	
	Input Frequency	50Hz/60Hz	
	Allowable Fluctuation	Voltage Continued Volatility $\pm 10\%$ Input Frequency Volatility: $\pm 5\%$ Voltage Unbalance Rate Less Than 3% Distortion Meet Iec 61800-2 Standard	
Control System	Control system	High performance vector control inverter based on DSP	
	Control method	V/F control, vector control W/O PG, vector control W/PG	
	Acceleration/deceleration control	Straight or S-curve mode. Four times available and time range is 0.0 to 6500.0s.	
	Over load capability	G type: rated current 150% - 1 min, rated current 180% - 3S	
	Maximum frequency	Vector control: 0~ 500Hz	
	Carrier Frequency	2~8kHz; automatically adjust carrier frequency according to the load characteristics.	
	Input frequency resolution	Digital setting: 0.01Hz minimum analog amount: 0.01Hz	
	Start torque	No PG vector control: 2% of rated speed 100% rated torque Vector control with PG: 0 hz / 180% rated torque	
	Speed range	1:50 (vector control W/O PG) 1:1000 (vector control W/ PG)	
	Steady-speed precision	Vector control W/O PG: $\leq \pm 0.1\%$ (rated synchronous speed) Vector control W/ PG: $\leq \pm 0.02\%$ (rated synchronous speed)	
	Torque response	$\leq 40\text{ms}$ (vector control W/O PG)	
	Jogging control	Jog Frequency Range: 0.00Hz to max. frequency; Jog Ac/deceleration time: 0.0s~6500.0s	
	Multi-speed operation	Achieve up to 16-speed operation through the control terminal	
	Built-in PID	Easy to realize closed-loop control system for the process control.	
Automatic voltage regulation(AVR)	Automatically maintain a constant output voltage when the voltage of electricity grid changes		
Torque limit and control	"Excavator" feature - torque is automatically limited during the operation to prevent frequent overcurrent trip; the closed-loop vector mode is used to control torque.		
Personalization function	Self-inspection of peripherals after power-on	After powering on, peripheral equipment will perform safety testing, such as ground, short circuit, etc.	
	Rapid flow rate	The current limiting algorithm is used to reduce the inverter overcurrent probability, and improve whole unit anti-interference capability.	
	Timing control	Timing control function: time setting range(0h to 6500m).	
Running	Input signal	Running method	Keyboard/terminal/communication
		Frequency setting	10 frequency setting available, including adjustable DC 0~10V / -10~+10V , adjustable DC 0~20mA , panel potentiometer
		Start signal	Rotate forward/reverse
		Multi-speed	At most 16-speed can be set(run by using the multi-function terminals or program)
		Emergency stop	Interrupt controller output
		Wobble run	Process control run
		Fault reset	When the protection function is active, you can automatically or manually reset the fault condition.
PID feedback signal	Including DC(0 to 10V), DC(0 to 20mA)		

Nameplate instruction

Item	Function	Specification	
Running	Output signal	Running status	Motor status display, stop, ac/deceleration, constant speed, program running status.
		Fault output	Contact capacity: normal-closed contact 3A/AC 250V; normal-opened contact 5A/AC 250V; 1A/DC 30V.
		Analog output	Two-way analog output, 16 signals can be selected such as frequency, current, voltage and other, output signal range(0 to 10V / 0 to 20mA).
		Output signal	At most 4-way output, there are 40 signals each way
	Run function	Limit frequency, jump frequency, frequency compensation, auto-tuning, PID control	
	Running command channel	Three channels: operation panel, control terminals and serial communication port. They can be switched through a variety of ways.	
	Frequency source	Total 10 frequency sources: digital, analog voltage, analog current, multi-speed and serial port. They can be switched through a variety of ways.	
	Input terminals	8 digital input terminals, compatible with active PNP or NPN input mode, one of them can be for high-speed pulse input(0-100Hz square wave); 3 analog output terminals, AI1 and AI2 can choose 0~10V or 0~20mA input, AI3 voltage is -10~+10V input.	
	Output terminals	2 digital output terminals, one of them can be for high-speed pulse output(0 to 100kHz square wave); one relay output terminal; 2 analog output terminals respectively for optional range (0 to 20mA or 0 to 10V), they can be used to set frequency, output frequency, speed and other physical parameters.	
	Protection function	Inverter protection	Overvoltage protection, undervoltage protection, overcurrent protection, overload protection, overheat protection, overcurrent stall protection, overvoltage stall protection, losing-phase protection (optional), external fault, communication error, PID feedback signal abnormalities, PG failure and short circuit to ground protection.
IGBT temperature display		Displays current temperature IGBT	
Inverter fan control		Can be set	
Parameter protection function		Protect inverter parameters by setting administrator Password and decoding	
Display	LED/OLED display keyboard	Running information	Monitoring objects including : running frequency, set frequency, actual motor current, DC bus voltage, output voltage, actual motor speed, cumulative running time, IGBT temperature, PID reference value, PID feedback value, input terminal status, output terminal status, analog AI1 value, analog AI2 value, current stage of multi-speed, torque set value.
		Error message	At most save 3 error message, and the time, type, voltage, current, frequency and work status can be queried when the failure is occurred.
	LED display	Display parameters	
	OLED display	Optional, prompts operation content in Chinese/English text.	
	Parameters copy	Can uploading or downloading the function code information of frequency inverters, do the parameter copy quickly.	
	Key lock and function selection	Implement part or all of the key lock, define the scope of some buttons, in order to prevent wrong operation	
Communication	RS485	Built in 485	
Environment	Environment temperature	-10 °C to 40 °C (temperature at 40 °C to 50 °C, please derating for use)	
	Storage temperature	-20 °C to 65 °C	
	Environment humidity	Does not exceed 90% R.H, no condensation of moisture	
	Vibration	Below 5.9m/s ² (= 0.6g)	
	Application sites	Indoor where no sunlight or corrosive, explosive gas and water vapor, dust, flammable gas, oil mist, water vapor, drip or salt, etc.	
	Altitude	Less than 1000 m normal use, the area of more than 1000 m, please according to 1% of the 100 m derating derating use.	
	Pollution degree	2	
	IP degree	IP20	
Product standard	Product adopts safety standards.	IEC61800-5-1:2007	
	Product adopts EMC standards.	IEC61800-3:2005	
冷却方法		Forced air cooling	



Technical Specification



Wiring diagram

Inverter model	Output power (kW)	Input current (A)	Output current (A)	Dimension(H1xWxD1mm)					Installation(AxB dm)			N.W (KG)
				H	H1	W	D	D1	A	B	d	
PI500-E 5R5G1	5.5	50	25	280	300	190	190	198	140	285	6	7.2
PI500-E 5R5G2	5.5	28	25	280	300	190	190	198	140	285	6	7.2
PI500-E 7R5G2	7.5	37.1	32	330	350	210	190	198	150	335	6	9.5
PI500-E 011G2	11	49.8	45	380	400	240	215	223	180	385	7	13
PI500-E 015G2	15	65.4	60	500	520	300	275	283	220	500	10	41.2
PI500-E 018G2	18.5	81.6	75	550	575	355	320	328	250	555	10	58
PI500-E 022G2	22	97.7	90	695	720	400	360	368	300	700	10	72.5
PI500-E 030G2	30	122.1	110	163	185	90	146	154	65	174	5	1.6
PI500-E 037G2	37	157.4	152	163	185	90	166	174	65	174	5	1.8
PI500-E 045G2	45	185.3	176	238	260	120	182	190	90	250	5	2.7
PI500-E 055G2	55	214	210	280	300	190	190	198	140	285	6	7.2
PI500-E 075G2	75	307	304	330	350	210	190	198	150	335	6	9.5
PI500-E 0R7G3	0.75	4.3	2.1	380	400	240	215	223	180	385	7	13
PI500-E 1R5G3	1.5	5	3.8	500	520	300	275	283	220	500	10	41.2
PI500-E 2R2G3	2.2	5.8	5.1	550	575	355	320	328	250	555	10	58
PI500-E 004G3	4	10.5	9	695	720	400	360	368	300	700	10	72.5
PI500-E 5R5G3	5.5	14.6	13	790	820	480	390	398	370	800	11	108
PI500-E 7R5G3	7.5	20.5	17	940	980	705	410	418	550	945	13	190
PI500-E 011G3	11	26	25	995	1020	400	360	368	350	270	13*18	114.5
PI500-E 015G3	15	35	32	1230	1260	480	390	398	400	200	13	153
PI500-E 018G3	18.5	38.5	37	1419	1460	705	410	418	620	240	13	249.4
PI500-E 022G3	22	46.5	45									
PI500-E 030G3	30	62	60									
PI500-E 037G3	37	76	75									
PI500-E 045G3	45	91	90									
PI500-E 055G3	55	112	110									
PI500-E 075G3	75	157	152									
PI500-E 090G3	90	180	176									
PI500-E 110G3	110	214	210									
PI500-E 132G3	132	256	253									
PI500-E 160G3	160	307	304									
PI500-E 200G3	200	385	380									
PI500-E 220G3	220	430	426									
PI500-E 250G3	250	468	465									
PI500-E 280G3	280	525	520									
PI500-E 315G3	315	590	585									
PI500-E 355G3	355	665	650									
PI500-E 400G3	400	785	725									
PI500-E 132G3R	132	256	253									
PI500-E 160G3R	160	307	304									
PI500-E 200G3R	200	385	380									
PI500-E 220G3R	220	430	426									
PI500-E 250G3R	250	468	465									
PI500-E 280G3R	280	525	520									
PI500-E 315G3R	315	590	585									
PI500-E 355G3R	355	665	650									
PI500-E 400G3R	400	785	725									
PI500-E 450G3R	450	883	820	/	1700	1200	600	612	680	550	17	/

Note: with the letter "R" said with dc reactor; The product installation height after lifting bolt size is: H1 + 15 mm.

