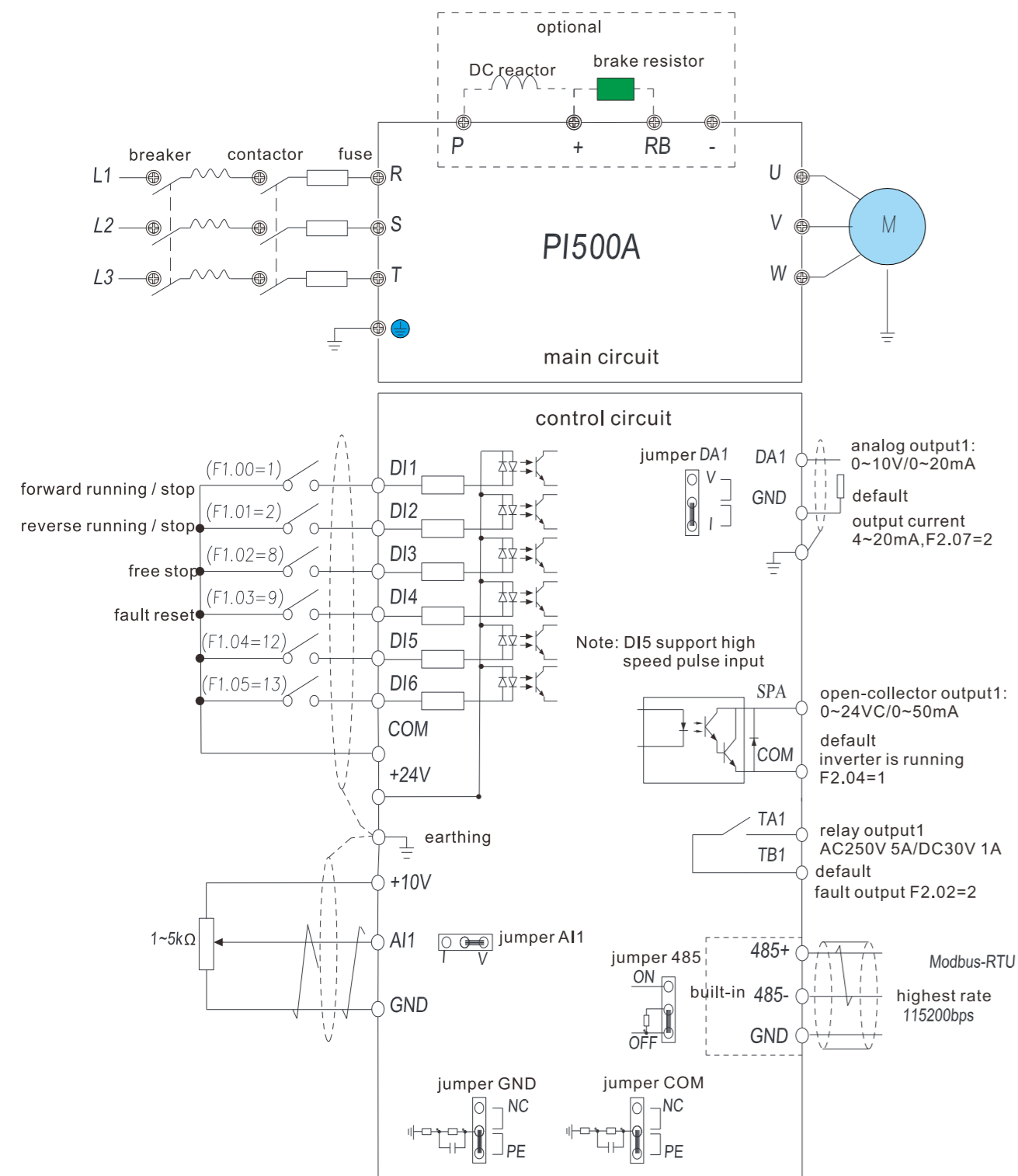
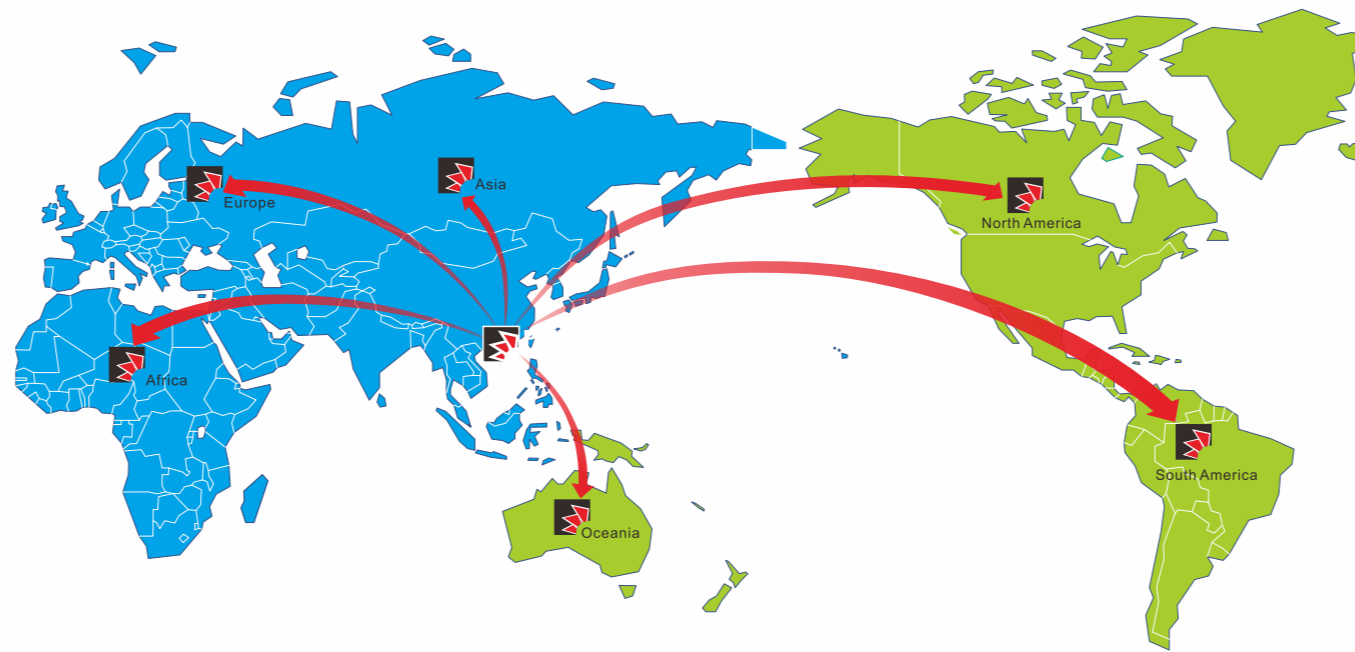


Wiring diagram



Note: — shielding layer — twisted-pair

Service Network:



201907EV2.0



PI500A^{series} Basic Frequency Inverter



Powtran technology

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

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Powtran PI500A series frequency inverter is based on the market demand of small power, small volume and simple speed regulation.

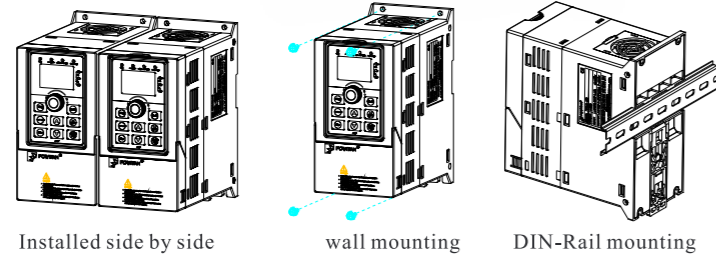
As a basic frequency inverter with compact size and large capacity, PI500A has obvious advantages such as high power density, high EMC specification design and high protective performance. It can be widely used in textile, paper making, wire drawing, winding, CNC, packaging, food, fan, water pump and other industries as well as small automatic machinery.



Performance Feature

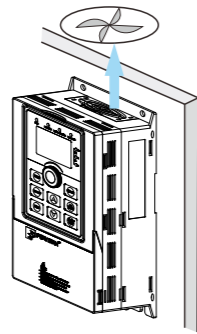
Compact design

- The optimal design of power density can effectively minimize product volume;
- It supports the seamless installation in the minimum space with the book structure design of the full power section and the same volume;
- Installation: supports wall mounting and DIN-Rail mounting.



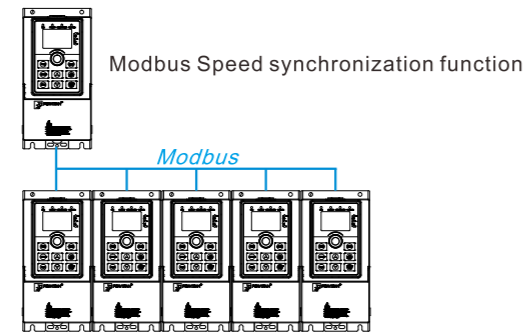
Stable and reliable operation

- High standard EMC design and built-in C3 filter can effectively reduce external interference and meet precise control requirements.
- Fully enclosed frame + independent air duct is designed to isolate the dust and ensure the stable and reliable operation of electronic components for a long time.
- Three anti-paint spraying process, IGBT pin add casing, seismic weak parts of the glue treatment, improve product reliability.



Excellent performance and function

- Larger rated current design, larger overload current and shorter acceleration time; the deceleration process automatically adds the over-excitation function, making the deceleration time shorter.
- Strong over-modulation capability, higher output voltage
- Strong overload suppression capability ensures that the inverter will not stop due to overload failure at the maximum output;
- Modbus communication is supported and industrial automation networking is easily
- Support Modbus bus mode, support synchronization control.



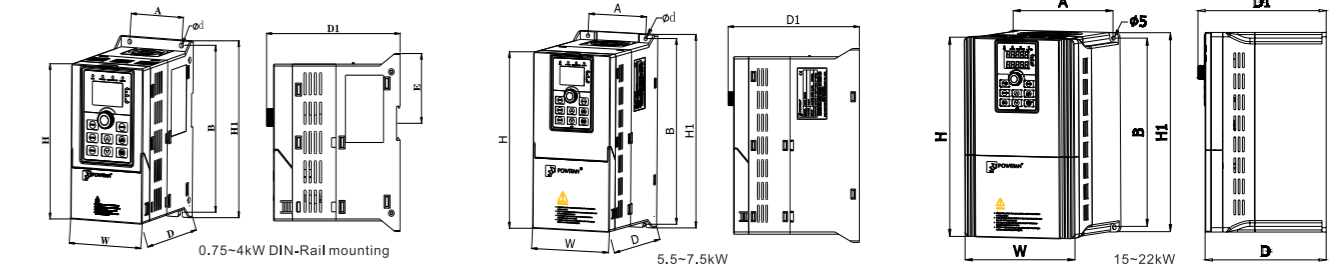
Achieved a number of authoritative organization testing certification



Standard specifications

Items	Function	Specification	
Power Input	Rated voltage	AC 1PH 220V(-15%)~240V(+10%)/ AC 3PH 220V(-15%)~240V(+10%) AC 3PH 380V(-15%)~440V(+10%)/ AC 3PH 480V(-10%)~480V(+10%)	
	Input frequency	50Hz/60Hz	
control system	Control system	High performance vector control inverter based on DSP	
	Control method	V/F control, vector control W/O PG	
	Automatic torque boost function	Realize low frequency (1Hz) and large output torque control under the V/F control mode	
	Acceleration/deceleration control	Straight or S-curve mode. Four times available and time range is 0.0 to 6500.0s	
	V/F curve mode	Linear, square root/m-th power, custom V/F curve	
	Over load capability	G type:rated current 150% - 1 minute, rated current 180% - 2 seconds F type:rated current 120% - 1 minute, rated current 150% - 2 seconds	
	Maximum frequency	1 Vector control:0 to 300Hz; 2 V/F control:0 to 3200Hz	
	Carrier Frequency	0.5 to 16kHz; automatically adjust carrier frequency according to the load characteristics	
	Torque boost	Automatic torque boost; manual torque boost(0.1% to 30.0%)	
	DC braking	DC braking frequency: 0.0Hz to max. frequency, braking time: 0.0 to 100.0 seconds, braking current value: 0.0% to 100.0%	
	Jogging control	Jog Frequency Range: 0.00Hz to max. frequency; Jog Ac/deceleration time: 0.0 to 6500.0s	
	Built-in PID	Easy to realize closed-loop control system for the process control	
Personalization function	Automatic voltage regulation(AVR)	Automatically maintain a constant output voltage when the voltage of electricity grid changes	
	Self-inspection of peripherals after power-on	After powering on, peripheral equipment will perform safety testing,such as ground, short circuit, etc	
Running	Common DC bus function	Multiple inverter can use a common DC bus.	
	Quick current limiting	The current limiting algorithm is used to reduce the inverter over current probability, and improve whole unit anti-interference capability	
	Timing control	Timing control function: time setting range(0min. to 6500min.)	
	Input signal	DI1 input terminal	6 digital input terminal, DI5 can be high speed pulse input (0~100kHz square wave)
		A11 analog input	1 analog A11 input terminal, can choose 0~10v or 0~20mA input
		Multi-speed	At most 16-speed can be set(run by using the multi-function terminals or program)
		Emergency stop	Interrupt controller output
		Fault reset	When the protection function is active, you can automatically or manually reset the fault condition
	Output signal	PID feedbacksignal	Including DC(0 to 10V), DC(0 to 20mA)
		Output terminal	1 collector output terminal SPA; 1 relay output terminal; 1 DA1 analog output terminal
SPA / relay output		each port has 40 signals can be optional ,contact capacity of relay:normally open contact 5A/AC 250V;1A/DC 30V	
Running command channel	DA1 analog output	1 analog output, 16 signals can be selected such as frequency,current, voltage and other, output signal range (0 to 10V / 0 to 20mA)	
	Running command channel	Three channels: operation panel, control terminals and serial communication port. They can be switched through a variety of ways.	
	Run function	Limit frequency, jump frequency, frequency compensation, auto-tuning,PID control	
	Frequency source	Total 8 frequency sources: digital, analog voltage, multi-speed and serial port. They can be switched through a variety of ways	
	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.
Display		LED display keyboard	Running information
	Error information		At most save three error message, and the time, type, voltage, current, frequency and work status can be queried when the failure is occurred
	Key lock and function selection	Lock part or all of keys, define the function scope of some keys to prevent misuse	
	IGBT temperature	Display current IGBT temperature	
communication	RS485	Built -in RS485	
	Environment temperature	-10to 40 °C (The environment temperature in 40 ~ 50 °C, please D41derating use)	
	Storage temperature	-20~65°C	
	Environment humidity	Less than 90% R.H, no condensation.	
	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	No need derating below 1000m, please derating 1% every 100m when the altitude is above 3000m	
Product standard	Protection level	IP20	
	Product adopts safety standards	IEC61800-5-1:2007	
cooling method	Product adopts EMC standards	IEC61800-3:2004	
		Forced air cooling	

Installation size



inverter model	output power (kW)	input current (A)	output current (A)	Dimensions(mm)					Installation dimensions (mm)			N.w. (kg)
				H	H1	W	D	D1	A	B	d	
PI500A 0R4G1	0.4	5.4	2.5	163	185	90	146	154	65	174	5	1.6
PI500A 0R7G1	0.75	8.2	4									
PI500A 1R5G1	1.5	14	7	163	185	90	166	174	65	174	5	1.8
PI500A 2R2G1	2.2	23	10									
PI500A 004G1	4	35	16	238	260	120	182	190	90	250	5	2.7
PI500A 0R4G2	0.4	4.1	2.5									
PI500A 0R7G2	0.75	5.3	4	163	185	90	146	154	65	174	5	1.6
PI500A 1R5G2	1.5	8	7									
PI500A 2R2G2	2.2	11.8	10	163	185	90	166	174	65	174	5	1.8
PI500A 004G2	4	18.1	16									
PI500A 5R5G2	5.5	28	25	238	260	120	182	190	90	250	5	2.7
PI500A 0R7G3	0.75	4.3	2.5									
PI500A 1R5G3	1.5	5	3.8	163	185	90	146	154	65	174	5	1.6
PI500A 2R2G3	2.2	5.8	5.1									
PI500A 004G3	4	10.5	9	163	185	90	166	174	65	174	5	1.8
PI500A 5R5G3	5.5	14.6	13									
PI500A 7R5G3	7.5	20.4	17	238	260	120	182	190	90	250	5	2.7
PI500A 011F3	11	26	25									
PI500A 011G3	11	26	25	290	/	170	193	203	170	276	5	5.8
PI500A 015F3	15	35	32									
PI500A 015G3/018F3	15/18.5	35/38.5	32/37	163	185	90	146	154	65	174	5	1.6
PI500A 018G3/022F3	18.5/22	38.5/46.5	37/45									
PI500A 022G3/030F3	22/30	46.5/62	45/60									
PI500A 0R7G4	0.75	4.1	2.5	163	185	90	146	154	65	174	5	1.6
PI500A 1R5G4	1.5	4.9	3.7									
PI500A 2R2G4	2.2	5.7	5	238	260	120	182	190	90	250	5	2.7
PI500A 004G4	4	9.4	8									
PI500A 5R5G4	5.5	12.5	11	290	/	170	193	203	170	276	5	5.8
PI500A 7R5G4	7.5	18.3	15									
PI500A 011F4	11	23.1	22	163	185	90	146	154	65	174	5	1.6
PI500A 011G4	11	23.1	22									
PI500A 015F4	15	29.8	27	238	260	120	182	190	90	250	5	2.7
PI500A 015G4/018F4	15/18.5	29.8/35.7	27/34									
PI500A 018G4/022F4	18.5/22	35.7/41.7	34/40	290	/	170	193	203	170	276	5	5.8