



# VARIADOR DE VELOCIDAD CON CONTROL VECTORIAL DE ALTO RENDIMIENTO



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#### PI130 economical vector



RTANGO DE POTENCIA: 0,4-3,7 kW  
NIVEL DE VOLTAGE: SIMPLE-FASE 220 V  
TRIFASICO 220 V  
TRIFASICO 380 V



#### POSICIONAMIENTO DEL PRODUCTO

El convertidor de frecuencia de Serie P1130 es un tipo de variador de frecuencia de control vectorial económico y de alto rendimiento que se utiliza especialmente para realizar variaciones de frecuencia y como consecuencia variará la velocidad del motor para pequeñas maquinas y componentes.

#### ECONOMIA Y SUSTENTABILIDAD COMPACTADA Y FUNCIONALIDAD

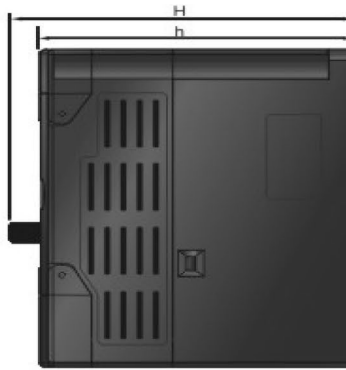


**PI130** series

Economical vector  
control inverter

Economy and Substantial  
Compact and flexible





# SERIE PI130



Inverter model	Input voltage	Rated output power	Rated input current(A)	Rated output current(A)	Match motor Power(kW)	Shape dimensions(L*W*Hmm)				Installation dimensions (a*b dmm)			Base No.
						L	W	H	h	a	b	d	
PI130-0R4G1(Z)	1-phase 220V ±10%	0.4	5.4	2.5	0.4	142	85	122.8	112	130	73	Ø5.3	1M2
PI130-0R7G1(Z)		0.75	8.2	4	0.75								
PI130-1R5G1(Z)		1.5	14	7	1.5								
PI130-0R4G2(Z)	3-phase 220V -15%±10%	0.4	4.1	2.5	0.4	151.6	100.6	127.5	116.6	139.7	88.7	Ø5.3	1M3
PI130-0R7G2(Z)		0.75	5.3	4	0.75								
PI130-1R5G2(Z)		1.5	8	7	1.5								
PI130-2R2G2(Z)		2.2	11.8	10	2.2								
PI130-0R4G3Z	3-phase 380V -15%±10%	0.4	2	1.2	0.4	151.6	100.6	127.5	116.6	139.7	88.7	Ø5.3	1M3
PI130-0R7G3Z		0.75	4.3	2.5	0.75								
PI130-1R5G3Z		1.5	5	3.8	1.5								
PI130-2R2G3Z		2.2	5.8	5.1	2.2								

## Products realshot:



## Display panel parts

- Increasing the key
- Set/exit key parameters
- The shift key
- The descending key
- Keyboard potentiometer

- Digital display area
- The operation key
- Stop the reset button
- Identify key



## Product features show:

### Product size(mm)



### Frequency set mode:

Digital setting, analog voltage/current is setting, multi-speed setting, Serial port setting

### The control mode

V/F control open-loop flux vector control

### Operation function

Limited frequency, avoid slip compensation inversion, Reverse protection, protection self-tuning PID control

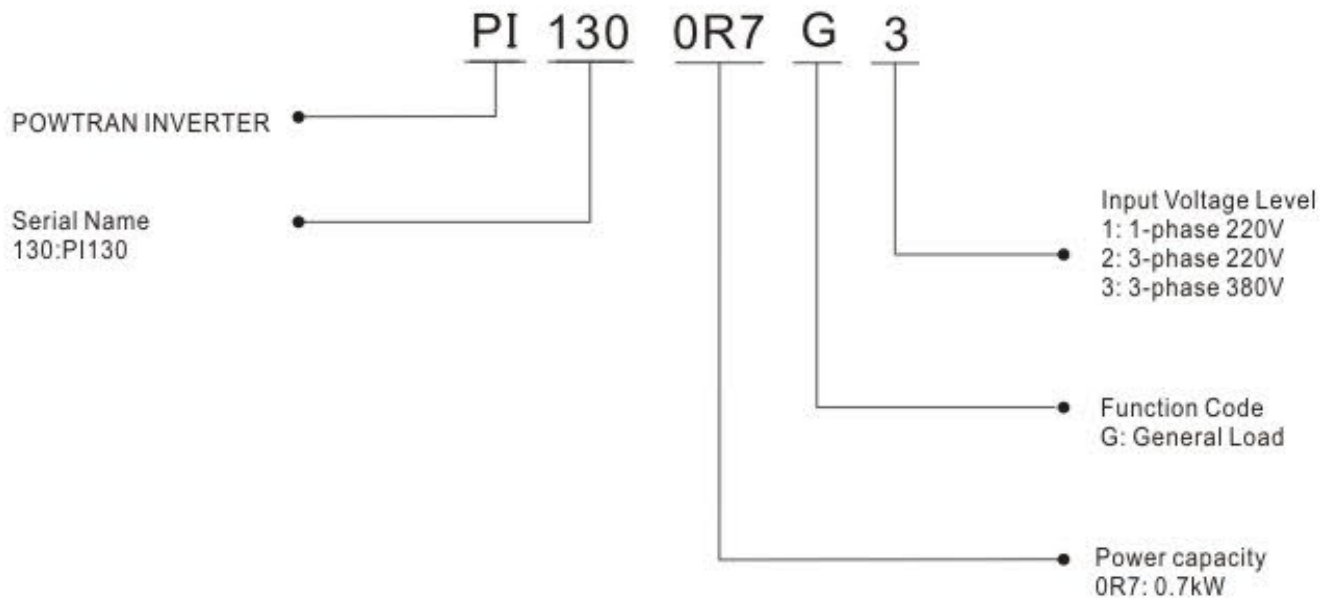
# SERIE PI130

## Standard specification:

Item		Specification	
Power	Voltage and frequency levels	Single-phase 220V, 50/60Hz Three-phase 220V, 50/60Hz Three phase 380,50/60HZ	
	Allowable fluctuation	Voltage: $\pm 10\%$ Frequency: $\pm 5\%$ The voltage unbalance rate is less than 3% and the distortion rate meets the IEC61800-2 standard.	
Control system	Control system	High performance vector control inverter based on DSP	
	Output frequency	0.00 to 400.0Hz	
	Control method	V/F control Open-loop flux vector control	
	Automatic torque boost function	Realize large output torque at low frequency (1Hz) under V/F control mode.	
	Frequency setting resolution	Digit: 0.01Hz Analog: max. frequency $\times 0.2\%$	
	V/F curve mode	Linear, square root/m-th power, user defined V/F curve	
	Over load capability	Rated Current 150% - 60 seconds, Rated Current 200% - 1 seconds,	
	Slip compensation	Slip compensation available	
	Carrier Frequency	1kHz to 15kHz	
	Start torque	0.5Hz/150% (Open-loop flux vector control)	
	Speed range	1:100 (Open-loop flux vector control)	
	Steady-speed precision (Speed control accuracy)	Open-loop flux vector control: $\leq \pm 0.5\%$ (rated synchronous speed)	
	Torque response	$\leq 40\text{ms}$ (Open-loop flux vector control)	
	Torque boost	Automatic torque boost; manual torque boost (0.1% to 30.0%)	
	Linear acceleration/deceleration	Linear acceleration and deceleration mode; two kinds of acceleration and deceleration time; time range 0.1s to 3600.0s.	
	DC braking	DC braking frequency: 0.00Hz to max. output frequency; Braking time: 0.0 to 50.0 seconds Braking current value: 0.0% to 150.0%	
	Jogging control	Jog Frequency Range: 0.00Hz to max. output frequency; Jog acceleration/deceleration time: 0.1s to 3600.0s	
	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		
Running	Input signal	Running method	Keyboard/terminal/communication
		Frequency setting	Total 8 frequency setting modes: digital, analog voltage/current, multi-speed and serial port.
		Start signal	Forward run Reverse run
		Multi-speed	At most 16-speed can be set (run by using the multi-function terminals or program)
		Multi-stage acceleration	At most 2-stage acceleration can be set (run by using the multi-function terminals)
		Emergency stop	Interrupt controller output
		Wobble run	Process control run
		Jog running	Slow speed running
		Fault reset	When the protection function is active, fault condition can be reset automatically or manually.
		PID feedback signal	Including DC 0 to 10V/0 to 20mA

# SERIE PI130

## DESCRIPCION DEL MODELO



## Scope of applications

- ※ This inverter is suitable for three-phase AC asynchronous motor and permanent magnet synchronous motor.
- ※ This inverter can only be used in those occasions recognized by this company, an unapproved use may result in fire, electric shock, explosion and other accidents.
- ※ If the inverter is used in sc equipments (e.g: equipments for lifting persons, aviation systems, safety equipment, etc.) and its malfunction may result in personal injury or even death. In this case, please consult the manufacturer for your application.

# SERIE PI9130

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## PI9130 Alta performance



RANGO DE POTENCIA: 0,75-7,5 kW  
NIVEL DE VOLTAGE: SIMPLE-FASE 220 V  
TRIFASICO 220 V  
TRIFASICO 380 V  
TRIFASICO 690 V



## POSICIONAMIENTO DEL PRODUCTO

El convertidor de control vectorial universal de alto desempeño de la serie pi9130 está basado en la última tecnología del funcionamiento y control del motor. A través del desacople de la corriente del flujo del motor y de la corriente de torsión, puede lograr una respuesta rápida alta y un control de torque preciso , asi ganan mas precisión con más control de rango de velocidad y control de torque .

**PI9130**  
high performance vector  
frequency inverter  
Quality is our pursuit  
Keep improving Casting brand



Multiple New technology Multiple protection mechanism

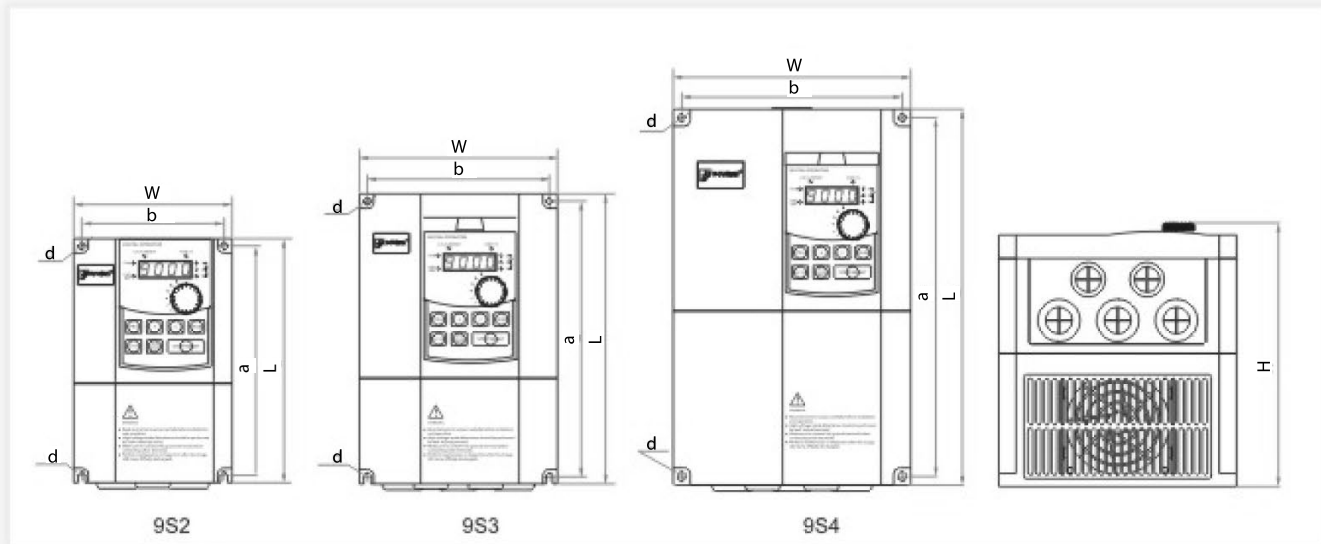
High Steady speed precision wide speed adjustment

High efficiency energy saving easy operation

**SERIE PI9130**

# SERIE PI9130

**product data** ( wall mounted, plastic frame 9S2/9S3/9S4 connect cable from left input to right output)



Inverter model	Rated power output(KW)	Rated input current(A)	Rated output current(A)	Match motor (KW)	Shape dimensions(mm)			Installation dimension(mm)			Weight (kg)	BaseNo.
					L	W	H	a	b	d		
<b>Single phase 220V ± 10%</b>												
PI9130 R4G1	0.4	5.4	2.5	0.4	185	120	165	174	108	Ø5.3	1.9	9S2
PI9130 0R7G1	0.75	8.2	4	0.75								
PI9130 1R5G1	1.5	14	7	1.5								
PI9130 2R2G1	2.2	23	10	2.2	220	150	182	209	138	Ø5.3	2.6	9S3
PI9130 004G1	4	35	16	4	285	180	200	272	167	Ø5.5	4.7	9S4
<b>Three phase 220V ± 10%</b>												
PI9130 0R4G2	0.4	4.1	2.5	0.4	185	120	165	174	108	Ø5.3	1.9	9S2
PI9130 0R7G2	0.75	5.3	4	0.75								
PI9130 1R5G2	1.5	8	7	1.5								
PI9130 2R2G2	2.2	11.8	10	2.2	220	150	182	209	138	Ø5.3	2.6	9S3
PI9130 004G2	4	18.1	16	4	285	180	200	272	167	Ø5.5	4.7	9S4
<b>Three phase 380V ± 10%</b>												
PI9130 0R7G3	0.75	4.3	2.5	0.75	185	120	165	174	108	Ø5.3	1.9	9S2
PI9130 1R5G3	1.5	5	3.8	1.5								
PI9130 2R2G3	2.2	5.8	5.1	2.2								
PI9130 004G3	4	10.5	9	4	220	150	182	209	138	Ø5.3	2.6	9S3
PI9130 5R5G3	5.5	14.6	13	5.5								
PI9130 7R5G3/ PI9130 011F3	7.5/11	20.5/26	17/25	7.5/11	285	180	200	272	167	Ø5.5	4.7	9S4



**SERIE PI9130**  
Convertidor de frecuencia con vector de alta performance

# SERIE PI9130

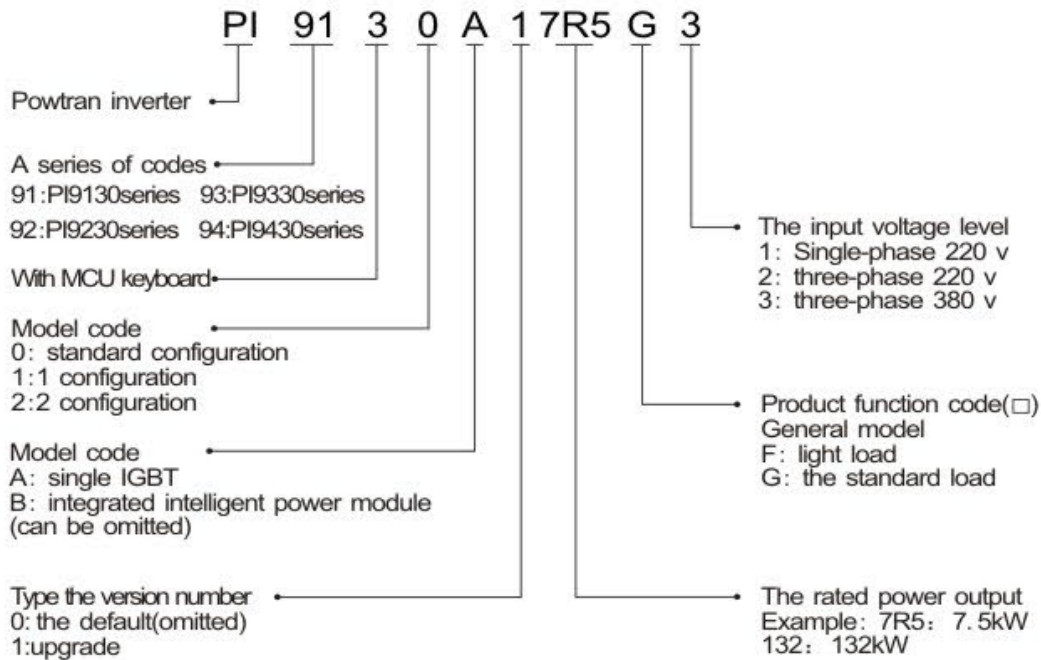
## Standard specification:

Item		Specification
Power	Voltage and frequency levels	Single-phase 220,50/60Hz Three-phase 220V,50/60Hz Single-phase 380,50/60Hz Three-phase 480V,50/60Hz Three-phase 690V,50/60Hz
	Allowable fluctuation	Voltage:±15% Frequency:±5%
Control system	Control system	High performance vector control inverter based on DSP
	Output frequency	Vector control:0 to 300Hz V/F control:0 to 3200Hz
	Control method	V/F control, vector control W/O PG, vector control W/ 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	Vector control:0 to 300Hz V/F control:0 to 3200Hz
	Carrier Frequency	0.5 to 15kHz;automatically adjust carrier frequency according to the load characteristics.
	Input frequency resolution	Digital setting: 0.01Hz Analog setting: maximum frequency×0.025%
	Start torque	G type: 0.5Hz/150% (vector control W/O PG) F type: 0.5Hz/100% (vector control W/O PG)
	Speed range	1:100 (vector control W/O PG) 1:1000 (vector control W/ PG)
	Steady-speed precision	Vector control W/O PG: < ± 0.5% (rated synchronous speed) Vector control W/ PG: < ± 0.02% (rated synchronous speed)
	Speed control accuracy	Vector control W/O PG < ± 0.3% ( rated synchronous speed )
	Torque response	< 40ms (vector control W/O PG) < 5ms ( W/ PG )
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 36.0 seconds, braking current value: 0.0% to 100.0%	
Jogging control	Jog Frequency Range: 0.00Hz to max. frequency; Jog Acc/deceleration time: 0.0s to 3600.0s	
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.
	Common DC bus function	Multiple inverters can use a common DC bus.
	Cycle-by-cycle current limiting	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 65535h).



# SERIE PI9130

## Model specification



## Using range

- \* This converter is suitable for the three-phase ac asynchronous motor and permanent magnet synchronous motor.
- \* Does this inverter can only be used in place of the company recognition, unauthorized use of the environment may cause a fire, get an electric shock, such as explosion event.
- \* Does if used for the inverter failure and loss of life or personal injury may cause equipment(such as transport personnel, fall equipment, air systems, safety equipment, etc),must be handled carefully, in this case, please refer to the factory a consulting.

# SERIE PI500

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RANGO DE POTENCIA: 7,5 - 630kW  
NIVEL DE VOLTAGE: SIMPLE-FASE 220 V  
TRIFASICO 220 V  
TRIFASICO 380 V  
TRIFASICO 690 V



## DESCRIPCION:

Para satisfacer mejor el campo de aplicación industrial, Powtran ha diseñado el convertidor de frecuencia de control vectorial de la serie PI500, que es un producto de alto rendimiento y alta estabilidad, basado en una plataforma de hardware adecuada.

Este producto es un nuevo convertidor de control de vector de corriente de alto desempeño diseñado por Powtran basado en la última teoría de funcionamiento y control del motor. Mientras mantiene el excelente funcionamiento y las funciones básicas, fue significativamente mejorado en la facilidad de uso, mantenimiento, protección ambiental, instalación de ahorro espacial y normas de diseño para los usuarios.

## PROPIEDADES:

El inversor de series PI 500 posee alto rendimiento con buenas características dinámicas, capacidad de sobrecarga superior. Este producto añade funcionamiento editable y software de monitoreo de fondo, soporte, sorresof PG card, y tiene una función de combinación rica y potente compatible con alta performance. está diseñado para una variedad de conductores de maquinaria industrial, unidad de entrada de bomba de ventilador y agua y unidad de rectificación pesada.

# PI500 series

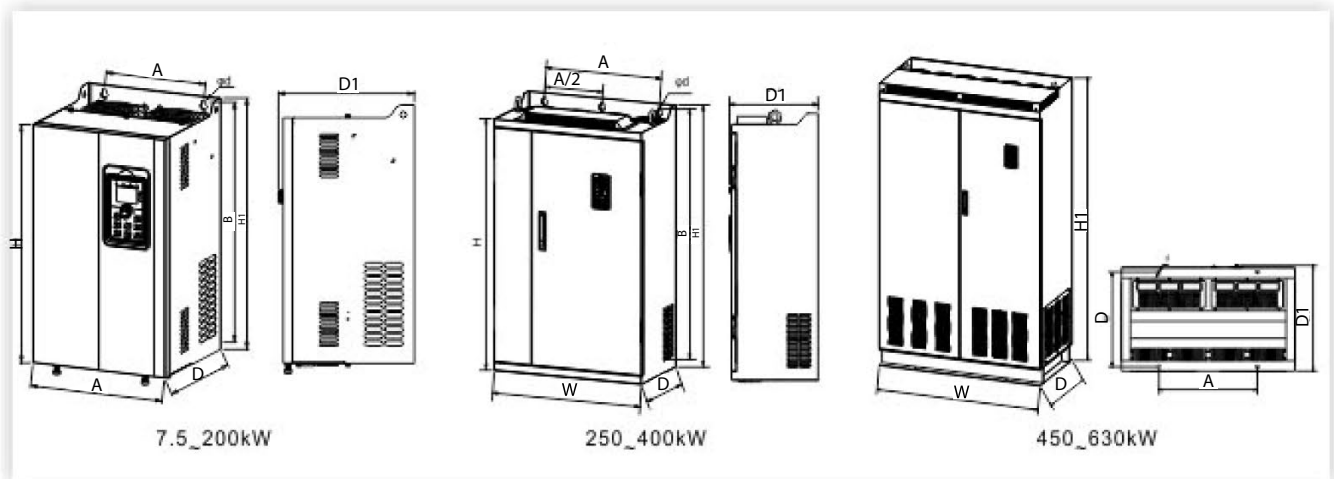
## High-performance vector control inverter

- High efficiency and simple saving operation
- Steady speed precision high speed range
- A variety of new process multiple protection mechanism
- optimize structure of the design advanced technology platform



# SERIE PI500

## Technical Specification



Inverter model	Output power (kW)	Input current (A)	Output current (A)	Dimension(H1xWxD1mm)					Installation (AxB dmm)		
				H	H1	W	D	D1	A	B	d
PI500-7R5G3/011F3	7.5/11	20.5/26	17/25	280	300	190	190	198	140	285	6
PI500-011G3/015F3	11/15	26/35	25/32								
PI500-015G3/018F3	15/18.5	35/38.5	32/37								
PI500-018G3/022F3	18.5/22	38.5/46.5	37/45	330	350	210	190	198	150	335	6
PI500-022G3/030F3	22/30	46.5/62	45/60								
PI500-030G3/037F3	30/37	62/76	60/75	380	400	240	215	223	180	385	7
PI500-037G3/045F3	37/45	76/91	75/90								
PI500-045G3/055F3	45/55	91/112	90/110	500	520	300	275	283	220	500	10
PI500-055G3/075F3	55/75	112/157	110/150								
PI500-075G3	75	157	150								
PI500-093F3	93	180	176	550	575	355	320	328	250	555	10
PI500-93G3/110F3	93/110	180/214	176/210								
PI500-110G3/132F3	110/132	214/256	210/253								
PI500-132G3/160F3	132/160	256/307	253/304	695	720	400	360	360	300	700	10
PI500-160G3/187F3	160/187	307/345	304/340	790	820	480	360	368	370	800	11
PI500-187G3/200F3	187/200	345/385	340/380								
PI500-200G3/220F3	200/220	385/430	380/426								
PI500-220G3	220	430	426								
PI500-250F3	250	468	465								
PI500-250G3/280F3	250/280	468/525	465/520	940	980	705	380	388	550	945	13
PI500-280G3/15F3	280/315	525/590	520/585								
PI500-315G3/355F3	315/355	590/665	585/650								
PI500-355G3/400F3	355/400	665/785	650/725								
PI500-400G3	400	785	725								
PI500-450F3	450	883	820	/	1700	1200	600	612	680	550	17
PI500-450G3/500F3	450/500	883/920	820/860								
PI500-500G3/560F3	500/560	920/1010	860/950								
PI500-560G3/630F3	560/630	1010/1160	950/1100								
PI500-630G3/700F3	630/700	1160/1310	1100/1250								

Remark: After installing the screw rings ,the height dimensions is :H1+15mm.

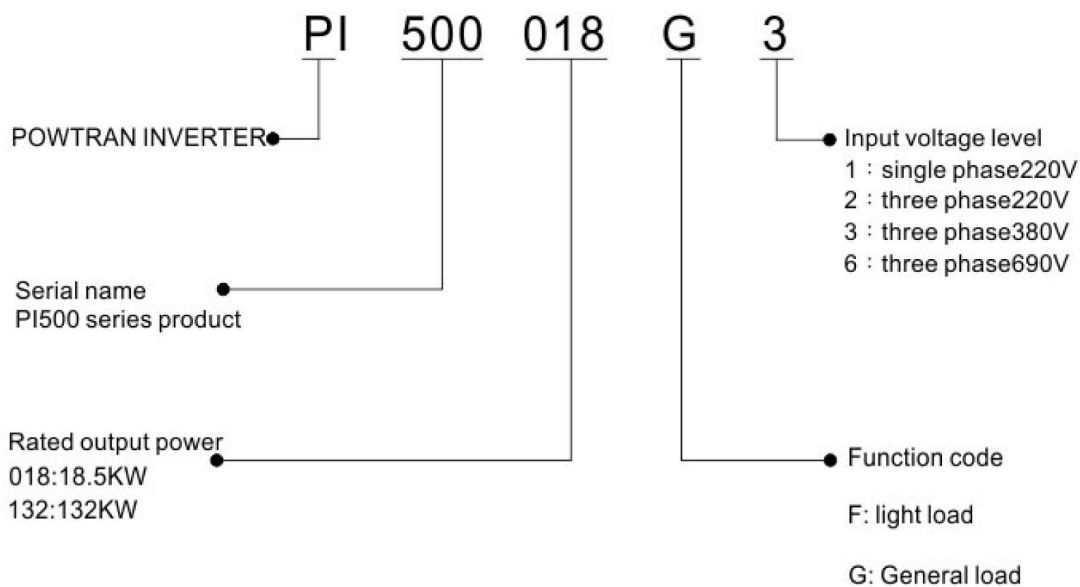
# SERIE PI500

## Standard specification:

Item	Function	Specification
Power	Rated voltage level	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
	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	Vector control: 0 to 300Hz V/F control: 0 to 3200Hz
	Carrier Frequency	0.5 to 16kHz; automatically adjust carrier frequency according to the load characteristics.
	Input frequency resolution	Digital setting: 0.01Hz Analog setting: maximum frequency $\times 0.1\%$
	Start torque	G type: 0.5Hz/150% (vector control W/O PG) F type: 0.5Hz/100% (vector control W/O PG)
	Speed range	1:100 (vector control W/O PG) 1:1000 (vector control W/ PG)
	Steady-speed precision	Vector control W/O PG: $\leq \pm 0.5\%$ (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)
	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 36.0 seconds, braking current value: 0.0~100.0s
	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.
	Common DC bus function	Multiple inverters can use a common DC bus.
	Quick current limiting	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).

# SERIE PI500

## Model Description



## Using range

- \* This converter is suitable for the three-phase ac asynchronous motor and permanent magnet synchronous motor.
- \* Does this inverter can only be used in place of the company recognition, unauthorized use of the environment may cause a fire, get an electric shock, such as explosion event.
- \* Does if used for the inverter failure and loss of life or personal injury may cause equipment (such as transport personnel, fall equipment, air systems, safety equipment, etc), must be handled carefully, in this case, please refer to the factory a consulting.

SERIE PI500