

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

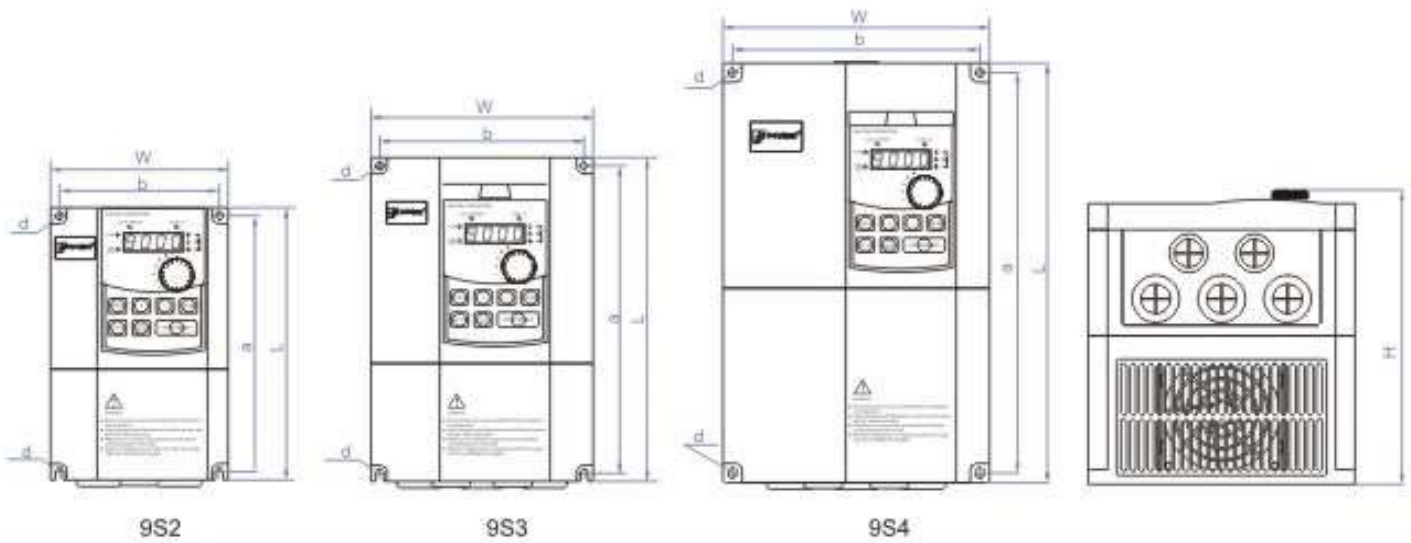


Multiple New technology Multiple protection mechanism

High Steady speed precision wide speed adjustment

High efficiency energy saving easy operation

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



9S2

9S3

9S4

Model	Rated power	Rated current	Rated speed	Shape dimensions(mm)	Installation dimension(mm)	Weight
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Inverter model	Rated power output(KW)	Rated input current(A)	Rated output current(A)	Match motor (KW)	Match motor (mm)			Match motor (mm)			Weight (kg)	BaseNo.
					L	W	H	a	b	d		
Single phase 220V ±10%												
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
Three phase 220V ±10%												
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
Three phase 380V ±10%												
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

Technical Features



Asynchronous motor



Synchronous Motor



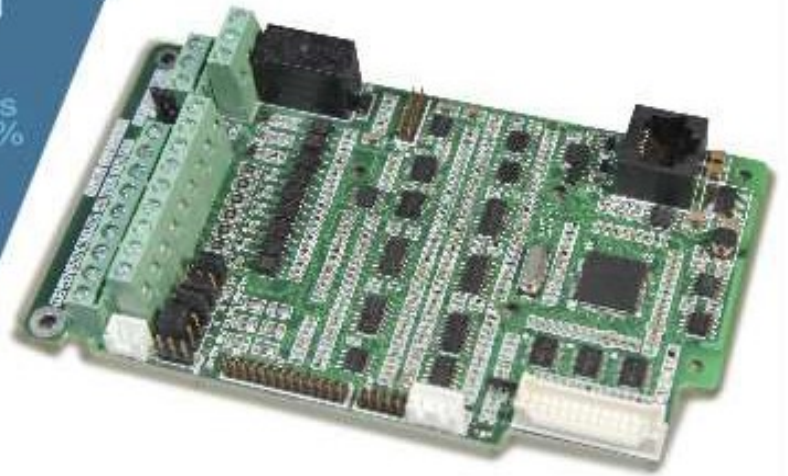
Variable frequent motor



Direct drive motor

Steady speed precision high speed range

Steady speed precision: plus or minus 0.5% (open loop), plus or minus 0.02% (closed loop)
Speed range: 1:100 (open loop), 1:1000 (closed loop)
The torque response: < 40 ms (open loop)
Automatic torque increase function, the realization of V/F control mode and low frequency (1 Hz) with large output torque control;
Heavy load overload capacity: 110% rated stable operation; 1 min 150% rated load, 180% rated load 2 s



High speed high performance control DSP core control unit

Simple PLC
Parameter auto-tuning
Low frequency high torque
strong performance of vector control



Single IGBT

Insulated gate bipolar transistor
High input impedance characteristics
Competitive price



(PI9130A Series with)

IPM MITSUBISHI Intelligent power module

Advanced power switch components
Characteristic: GTR high current density, low saturation voltage, resistance to high voltage, high input impedance, high switching





(PI9130B 0.75~2.2kW 系列用)

frequency, low driving power

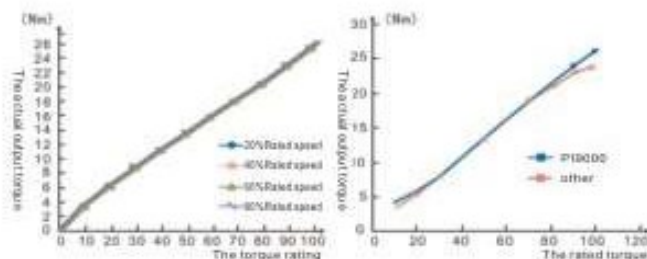
Efficiency : easy operation, small frame, integrated performance diversification, enhance the system reliability

High torque at low speed Small torque ripple

Stable output torque, low speed large torque

Torque mode and speed mode switch easily

Closed-loop vector mode, linear torque linearity error within 3%



infineon PIM integrated power module

integrated power devices

Integrated all parts and circuits

Small size, large power

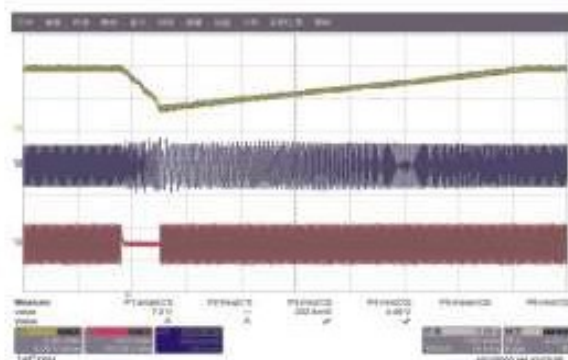
Low loss, more stable

keep working when Instantaneous power failure

Function: when the grid instantaneous fall or blackout, inverter can keep working by feedback energy

Application: suitable for equipment operation requiring high continuity

Such as textile production, chemical fiber...



Anti-corrosion paint protection circuit

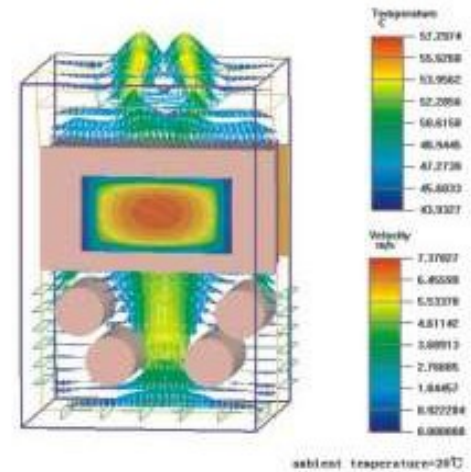


Anti-corrosion paint processing Prolong the service life

Superior insulation moisture-proof
Prevent electric leakage shock-proof
dust-proof
Corrosion resistance aging corona
resistance, etc

Temperature control perfectly

Efficient and accurate thermal
simulation platform software
pass the simulation test of science
High accuracy, high efficiency and
good stability
Available for replace the actual load
test simulation, equivalent temperature
inspection again



The whole machine temperature rise test

A rated load temperature rise test and
overload temperature rise test
The test results conform to the thermal
design safety margin
Ensure safe and stable operation
of the converter

Multiple defensive function

Over-voltage protection, low-voltage
protection, over-current protection,
over-load protection,
Over-heating protection, loss of speed
protection, lose phase protection,
External fault, communication error, PID
feedback signal abnormalities, PG failures,
Current detection fault, motor self-learning
fault, EEPROM operation fault,
Such as multiple protection mechanism



Such as multiple protection mechanism.



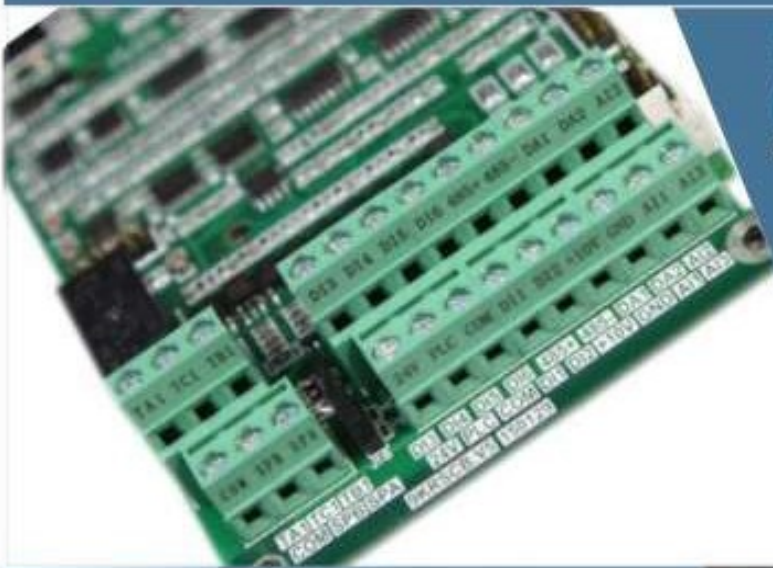
Powerful short circuit protection function

Using multiple protection design
Has the ability of interphase short circuit protection, short circuit protection, DC24V / 10 v

Short circuit protection function, can effectively protect the inverter and motor safety running and prolong the service life of equipment

Intelligent fan control

Through software using the intelligent fan start-stop control
When the inverter is up and running, to start the fan cooling
When the inverter dormancy or downtime, a cooling fan to enter
Delay stop state, later will automatically stop running
Save electricity and prolong the service life of fan



Strong and weak electricity, built-in 485

separately strong and weak electricity, reducing interference from high voltage part of weak current

Programming logic controller for more than 485 section frequency automatic control

Function of automatic voltage regulator (AVR)

Three-phase high precision automatic ac voltage stabilizer
With functions of automatic voltage



With functions of automatic voltage regulation, when the grid voltage Plus or minus 10% change, can automatically maintain a constant output voltage



A variety of frequency source in a given way

The keyboard setting, analog voltage setting, analog current setting, Multistage speed operation set, PID control set, the remote communication setting, Keypad given seven kinds of frequency source, such as a variety of ways



Multistage speed operation function

Through the user-defined control terminal can realize simple function of PLC through control terminal it can achieved 16 step speed operation Can set 4 period of acceleration time



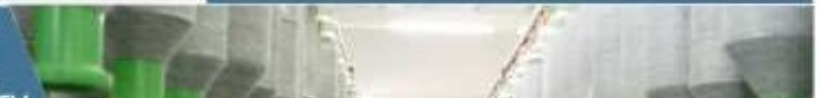
Avago photoelectric coupler

Adopted USA Avago company photoelectric coupler that was not in the power of optical coupling isolation with high stability, high reliability



Textile frequency control

Specially designed for the textile industry



Specially designed for the textile industry spindles molding process the application of specially designed function
The main measure is to output frequency of frequency converter according to the similar triangle wave shape type a timely change. In order to adapt to a variety of different process conditions, such as coarse yarn fine, paper Jane shapes, such as the slot Jane trajectory is different, the user can increase some special parameters in the software.



Instant restart when power supply drop

Inverter startup automatic tracking motor speed, less than 15ms continuous running, greater than 15 ms: automatic detection motor speed, instantaneous power restart, reduce the impulse current



Board level EMC design

The board level EMC design, on the driver board and control board module circuit, digital circuits, analog and digital mixed circuit (high frequency, low frequency), Using physical isolation and optical coupling isolation room safety requirements, separate the supply of electricity source, and the digital circuit and power supply, so as to achieve good EMC standard



PID control

Features: fast speed, short response time

Effect: to ensure product quality improve production efficiency

Meet the technical requirements





wave current limiting

- New security protection algorithm
- Improve the ability of anti-jamming
- Reduced risk of over current



Humanized design keyboard

- A key shuttle
- Double row shows
- Easy operate
- Reasonable layout
- OLED display
- Multi-languages shows

Product information











- command source light
- Running indicator lights
- Forward(FWD) & reverse (RVS) operation indicator light
- OLED digital display area
- Set/exit key Parameters
- Increasing key/self defined 1 multi-function button
- Confirm button



The keyboard control panel display

- Machine self-learning
- Torque control
- Fault indicator light
- Unit combination lights
- Keyboard potentiometer/encoder
- decreasing /multi-function key definitions 2
- Run button
- Stop/reset button
- Shift button

The keypad description

Mark	Name	Function
RUN	Running lights	<ul style="list-style-type: none"> * Bright: frequency converter in the running state * State: frequency converter in the stop state
LOCAL/ REMOTE	The command source light namely keyboard operation, terminal and remote operation indicator light(communication control)	<ul style="list-style-type: none"> * Bright: terminal operation control state * Out: the keyboard control state * blink: in the remote control operation state
FWD/REV	Positive&negative operation indicator light	<ul style="list-style-type: none"> * Bright: in a state of forward * Out: in a state of reverse
TUNE/TC	Motor self-learning Torque control Fault indicator light	<ul style="list-style-type: none"> * Bright: in torque control mode * slow flash: in a state of motor self-learning * flash: in the fault state
	Unit combination lights	<ul style="list-style-type: none"> * Hz frequency unit * A current unit * V voltage unit * RPM speed unit * % %
	OLED digital display area	<ul style="list-style-type: none"> * Multi languages and humanized display menu * highlighted OLED display 3 group status parameters
	Parameters Set/exit key	<ul style="list-style-type: none"> * Enter the first level menu parameters changes state * To exit the feature data modification * To exit from the sub-menu to the state by the function key menu to display the menu
	The shift key	<ul style="list-style-type: none"> * In stop display interface and running display interface, you can cycle through the display parameters; When modifying parameters, you can choose the parameter changes
	Increasing the key	* Increasing data or function code
	Multifunction button definition 1 ³	* The UP key through parameter F6. 18 definition key function
	The decreasing key	* Data or function code decrease
	multifunction definition button2 ²	* The DOWN key set parameter by F6. 19 definition key function
	Run the keyboard	* Under the keyboard operation, used to run the operation
	Stop/reset button to	* Running state, press this button can be used to stop running operation; Fault alarm state, can be used to rehabilitate operation, the key features of the function code F6. 00 constraints,
	Enter key	* Step by step into the menu screen, set parameter confirmation
	Keyboard potentiometer	* A F0. 03= 4 keyboard potentiometer setting operation frequency
	keyboard encoder	<ul style="list-style-type: none"> * Query condition, increasing or decreasing function item; * Modify condition, feature value or edit an increasing or decreasing; * Monitoring state, set frequency increasing or decreasing

注: JPR6E9130中的“R”代表键盘带MCU,其中上标³表示软件版本为C3.00及以上键盘带MCU才具备此功能

Application industry

Metallurgy,petroleum, chemical,textile,electric power,building materials,coal,medicine, food, papermaking,plastics,printing and dyeing,lifting, Cables, washing, water supply,hvac,sewage treatment and other industries...

Form a complete set of machinery, wire drawing machine,mixer,cutting machine,winding machine,

compressor,blower pump,grinding machine,conveyor belt,Hoist, centrifuges, and various speed machinery...

Product use



product details

Front





bottom



Air duct





cooling fan



radiator



Check and safety considerations

This product has passed the strict quality inspection by Powtran. According to the instructions of this warranty card, Powtran will be responsible for free maintenance for all hardware failures caused by product quality problem under normal use during the warranty period.

Please check after open the package



✘ Check the radiator appearance


※ Check the inverter, user manual .

※ Check frequency inverter nameplate, to identify the product in your hand is the order of the products.

Nameplate instructions

The inverter type →
Power output specifications →
The input power supply specifications →
Output specifications →
Bar code →
The production sequence number →
Production address →

	POWTRAN®	
MODEL:	PI9130 7R5G3	
POWER:	7.5kW	
INPUT:	AC 3PH 380V ±10% 50Hz/60Hz	
OUTPUT:	AC 3PH 0-380V 17A 0-400Hz	


ZPB1A0100001
DALIAN POWTRAN TECHNOLOGY CO.,LTD.

Model specification

PI 91 3 0 A 1 7R5 G 3

Powtran inverter → PI

A series of codes → 91
91:PI9130series 93:PI9330series
92:PI9230series 94:PI9430series

With MCU keyboard → 3

Model code → 0
0: standard configuration
1:1 configuration
2:2 configuration

Model code → A
A: single IGBT
B: integrated intelligent power module
(can be omitted)

Type the version number → 1
0: the default(omitted)
1:upgrade

The input voltage level → 3
1: Single-phase 220 v
2: three-phase 220 v
3: three-phase 380 v

Product function code(□) → G
General model
F: light load
G: the standard load

The rated power output → 7R5
Example: 7R5: 7.5kW
132: 132kW

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.

Only trained personnel allowed to operate this device, please read this manual in detail before use for safety, installation, operation and maintenance. The equipment safe operation depends on the right transportation, installation, operation and maintenance.

Product information feedback

Dear user:

Thank you for your interest in and purchasing Powtran products! In order to better serve you, we want to be able to timely get your personal information and the related information of the purchased Powtran products so as to understand your current and future further demand to Powtran products, we would appreciate your valuable feedback. For your convenience, please visit our website <http://www.powtran.com> and then click "Technologies and Services" and "Download" columns to submit your feedback information.

- 1) Download the update product manuals you need
- 2) View the technical information on products, such as operation instructions, specifications and features, FAQ, etc.
- 3) Share application cases.
- 4) Technical advisory and online feedback
- 5) Feedback the product and demand information for via e-mail
- 6) Inquire the latest products and access to various types of warranty and extend additional services

Production package

