



Economical
Smart

PI130 series

Economical vector
control inverter



Technical Features



1. Adopting Taiwan DSP to be the core control chip to realize the high speed performance control.

Product orientation

PI130 series frequency inverter is a type of economical and high performance vector control frequency inverter which is special used to realize frequency control of motor speed for small machines and equipments.

Range of capacity

Power range: 0.4-1.5kW Maximum frequency :400Hz
Voltage level: single-phase 220V three-phase 220V



2. Adopting the Mitsubishi smart power module IPM, with the inspection function of overvoltage, overcurrent and overheat, stable and reliable.



4. Single-phase and three-phase 220V input are compatible, to meet variable applications.



3. Built-in brake resistor, realize frequent acceleration and deceleration freely (optional).



5. Adopting Taiwan songchuan relays, stop and start the cooling fans very well.



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Application



Packing, printing, spinning, food, construction, medicine, Papermaking, plastic, washing, assorted mechanization, machine tool, conveyor, blower, water pump, mixing machine.

Specification and size: (1M2-1M3)



Model	Voltage(V)	Power(kW)	Input current	Output current	Dimension (L×W×Hmm)	Installation size (a×b dmm)	Base.
PI130-0R4G1	Single-phase 220V±10%	0.4	5.4	2.5	142×85×112	130×73 Ø5.3	1M2
PI130-0R7G1		0.75	8.2	4.0			
PI130-1R5G1		1.5	14.0	7.0	152×101×117	140×89 Ø5.3	1M3
PI130-0R4G2	Three-phase 220V±10%	0.4	4.1	2.5	142×85×112	130×73 Ø5.3	1M2
PI130-0R7G2		0.75	5.3	4.0			
PI130-1R5G2		1.5	8.0	7.0	152×101×117	140×89 Ø5.3	1M3

Hotline: 400-0411-755



Standard specification

Items		Specification
Power	Voltage and frequency levels	Single-phase 220V, 50/60Hz Three-phase 220V, 50/60Hz
	Allowable fluctuation	Voltage: ± 10% Frequency: ± 5%
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 × 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: ≤ ± 0.5% (rated synchronous speed)
	Torque response	≤40ms (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	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
	Wobblulate 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

Standard specification

Items		Specification
Running	Running status	Motor status display, forward, reverse, program running status.
	Output signal	Relay contact capacity AC 250V/7A
		1-way analog output, 9 kinds of signals selectable (frequency, current, voltage, etc), output signal range DC 0 to 10V/0 to 20mA.
		2-way output, 8 kinds of signals selectable each way
	Running function	Limit frequency, dodge frequency, slip compensation, reversal protection, auto-tuning, PID control
	DC current braking	Built-in PID regulates braking current to ensure sufficient braking torque under no over-current condition.
	Running command channel	Three channels: operation panel, control terminals and serial communication port.
Protection function	Frequency source	Total 8 frequency sources: digital, analog voltage, analog current, multi-speed and serial port. They can be switched through a variety of ways.
	Input terminals	5 digital input terminals, compatible with active PNP or NPN inputs.
	Output terminals	One digital output terminal (bipolar output) ; one relay output terminal; 1 analog output terminal, 0 to 20mA/0 to 10V signals selectable, realize output of set frequency, output frequency, speed and other physical parameters.
	Inverter protection	Over-voltage protection, under-voltage protection, over-current protection, over-load protection, over-heat protection, over-current stall protection, over-voltage stall protection, external fault, communication error, PID feedback signal abnormalities.
	IGBT temperature display	Display current IGBT temperature
	Instantaneous restart when power-fail	Less than 15 milliseconds: continuous operation. More than 15 milliseconds: instantaneous restart after motor speed detection automatically
	Speed start tracking method	Inverter automatically track motor speed after start-up
Display	Parameter protection function	Protect inverter parameters by setting administrator password and decoding
	LED Keyboard	Monitoring objects: running frequency, set frequency, output current, DC bus voltage, output voltage, actual motor speed, PID setting value, PID feedback value, input terminal status, output terminal status, analog AI1 value, analog AI2 value, current stage of multi-speed, torque set value, etc.
		Save maximum 3 error messages, able to find the error type, voltage, current, frequency and terminal status when failure occurred.
		Display parameters
Communication	Key lock and function selection	Realize all key buttons lock-up in order to prevent misuse.
	RS485	Completely isolated RS485 communication module, realize internet communication with the host computer.
Environment	Environment temperature	-10 ℃ to 40 ℃ (temperature at 40 ℃ to 50 ℃, please derating for use)
	Storage temperature	-20 ℃ ~ 65 ℃ -20 ℃ to 65 ℃
	Environment humidity	Less than 90% RH, non-condensate
	Height and vibration	Below 1000m and 5.9m/s² (= 0.6g)
	Application sites	Indoor where no sunlight or corrosive, explosive gas and water vapor, dust, flammable gas, oil mist, water vapor, water drop or salt, etc.
	Altitude	Below 1000m
	Pollution degree	2
Product standard	Product safety standards.	IEC61800-5-1:2007
	Product adopts EMC standards.	IEC61800-3:2005
Cooling method	Force-air cooling	