

JAROL®



ZHEJIANG JAROL SCIENTIFIC INSTRUMENTS CO.,LTD.

The Introduction

Established in 2002, Zhejiang Jarol Scientific Instrument Co., Ltd. is located in Haiyan City, Zhejiang Province, an abundant and vigorous city. It is a factory with an area of 12,000 square meters and specializes in research, development, manufacture and sale of inverters.

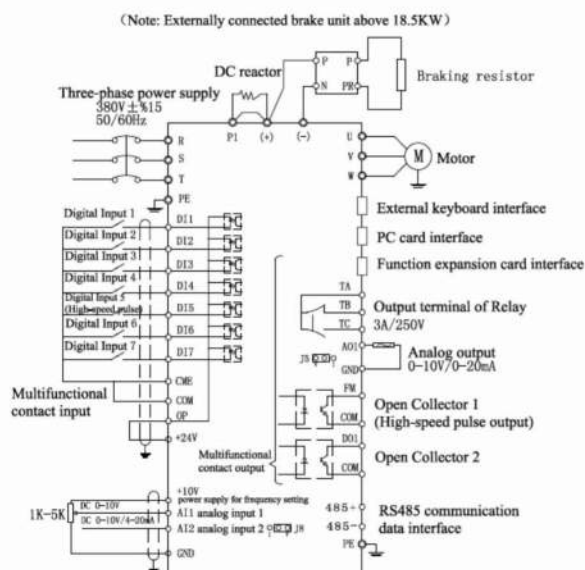
On the basis of introducing and absorbing foreign advanced technologies and combination of our experience in production, marketing and technical innovation of inverters, Jarol has mastered complete software and hardware technology of professional manufacturing inverters. We are fully capable to provide high quality inverters of all specifications to users throughout the world and maximize user's value.

We firmly believe that Jarol will become one of the professional companies with most influencing capability in the field of inverters, and the best trusty partner.



JAC580N Series

JAC580N is a high-performance vector control inverter developed by JAROL, and it is applicable to asynchronous motor and synchronous motor for speed control. With good dynamic characteristics, superior overload capacity, this product added editable function and background monitoring software, support sorts of PG card, and has rich and powerful combination function, stable performance. It is designed for a variety of industrial machinery drives, fan and water pump drive unit and IF heavy-duty grinding unit.



Technical specification of 580N series

Item		Specification	
Standard functions	Maximum frequency	Vector contro: 0~300Hz; V/F control: 0~3200Hz	
	Carrier frequency	0.5kHz~16kHz The carrier frequency is automatically adjusted based on the load features.	
	Input frequency resolution	Digital setting: 0.01Hz Analog setting: maximum frequency x 0.025%	
	Control mode	<ul style="list-style-type: none"> • Sensorless flux vector control (SFVC) • Closed-loop vector control (CLVC) • Voltage/Frequency (V/F) control 	
	Starting torque	<ul style="list-style-type: none"> • G type: 0.5 Hz/150% (SFVC); 0 Hz/180% (CLVC) • P type: 0.5 Hz/100% 	
Basic functions	Speed range	1:100 (SFVC)	1:1000 (CLVC)
	Constant-speed accuracy	± 0.5% (SFVC)	± 0.02% (CLVC)
	Torque control accuracy	± 5% (CLVC)	
	Overload capacity	<ul style="list-style-type: none"> • G type: 60s for 150% of the rated current, 3s for 180% of the rated current • P type: 60s for 120% of the rated current, 3s for 150% of the rated current 	
	Torque boost	<ul style="list-style-type: none"> • Fixed boost • Customized boost 0.1%~30.0% 	
	V/F curve	<ul style="list-style-type: none"> • Straight-line V/F curve • Multi-point V/F curve • N-power V/F curve (1.2-power, 1.4-power, 1.6-power, , 1.8-power, square) 	
	V/F separation	Two types: complete separation; half separation	
	Acceleration /deceleration curve	<ul style="list-style-type: none"> • Straight-line ramp • S-curve ramp Four groups of acceleration/deceleration time with the range of 0.0~6500.0s	
	DC braking	DC braking frequency: 0.00Hz~maximum frequency Braking time: 0.0s~36.0s Braking action current value: 0.0%~100.0%	
	JOG control	JOG frequency range: 0.00~50.00 Hz JOG acceleration/deceleration time: 0.0~6500.0s	
	Simple PLC and multi-speed operation	It implements up to 16 speeds via the simple PLC function or combination of DI terminal states.	
	Onboard PID	It realizes process-controlled closed loop control system easily.	
	Automatic voltage regulation (AVR)	It can keep constant output voltage automatically when the mains voltage changes.	
	Overvoltage/ Overcurrent stall contro	The current and voltage are limited automatically during the running process so as to avoid frequent tripping due to overvoltage/overcurrent.	
	Quick current limiting	Maximize overcurrent failure and protect the frequency converter in normal operation	
Torque limit and control	It can limit the torque automatically and prevent frequent over current tripping during the running process. Torque control can be implemented in the CLVC mode.		
High performance	Control of asynchronous motor and synchronous motor are implemented		

Item		Specification
Individualized functions		through the high-performance current vector control technology.
	Power dip ride through	The load feedback energy compensates the voltage reduction so that the AC drive can continue to run for a short time.
	Rapid current limit	It helps to avoid frequent overcurrent faults of the AC drive.
	Timing control	Time range: 0.0-6500.0 minutes
	Multi-motor switchover	Four motors can be switched over via four groups of motor parameters.
	Bus support	Support field bus: Modbus
	Motor overheat protection	The optional I/O extension card enables AI3 to receive the motor temperature sensor input (PT100, PT1000) so as to realize motor overheat protection.
	Multiple encoder types	Support difference, open collector and rotary transformer
Operation	Command source	Operation panel, control terminal and serial communication port are given Switch in various methods
	Frequency source	Various frequency sources: digital reference, analog voltage reference, analog current reference, pulse reference and serial port reference. The switching can be conducted in various methods
	Auxiliary frequency source	10 kinds of auxiliary frequency source. The auxiliary frequency jog and frequency synthesis can be achieved flexibly
	Input terminal	Standards: 7 digital input terminals, among which one support maximum high-speed pulse input of 100kHz 2 analog input terminals, among which one only supports voltage input of 0 ~10V and the other supports voltage input of 0 ~10V or current input of 4 ~20mA Expansion capability: 3 digital input terminals 1 analog input terminal, which supports voltage input of -10V ~10V and supports PT100/PT1000
Operation	Output terminal	Standards: 1 high-speed pulse output terminal (The open collector type is optional), supporting 0~100kHz square signal output 1 digital output terminal 1 relay output terminal 1 analog output terminal, supporting current output of 0~20mA or voltage output of 0~10V Expansion capability: 1 digital output terminal 1 relay output terminal 1 analog output terminal, supporting current output of 0~20mA or voltage output of 0~10V
Display and keyboard operation	LED display	Display the parameter
	Key lock and function selection	Realize partial or all key lock and define the action range of some keys to prevent misoperation
	Protection function	Short circuit test of electrified motor, input/output default phase protection, overcurrent protection, overvoltage protection, undervoltage protection, overheat protection, overload protection, etc.
	Options	IO expansion card, differential input PG card, OC input PG card and rotary transformer PG card.
Environment	Service site	Indoor, free from direct sunshine, no dust, corrosive gas, combustible gas, oil fog, water vapor, drip or salt, etc.
	Altitude	Less than 1,000m
	Ambient temperature	-10℃~ +40℃ (Please use the equipment by derating at ambient temperature of 40℃~50℃)

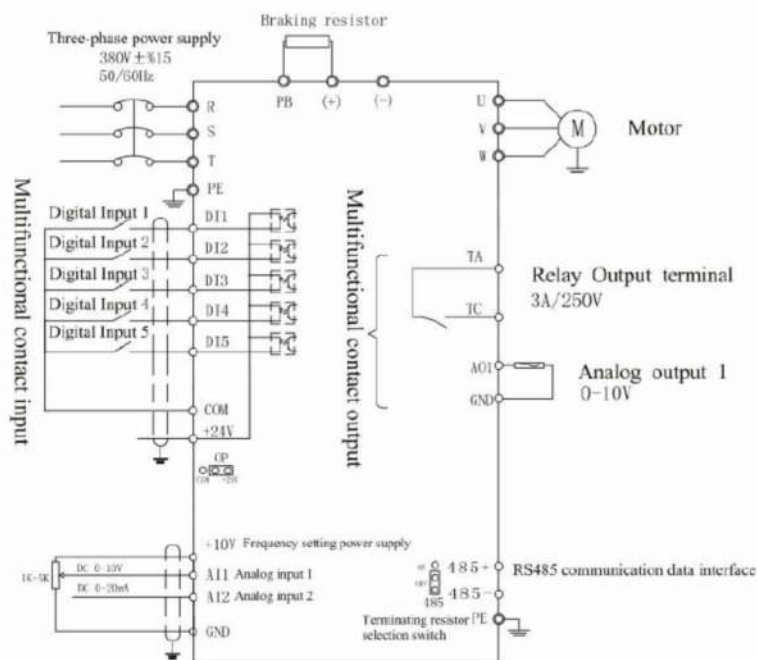
Item	Specification
Humidity	Less than 95%RH, no water condensation
Vibration	Less than 5.9m/s ² (0.6g)
Storage temperature	- 20°C~ + 60°C
IP grade	IP20
Pollution level	PD2
Power distribution system	TN , TT

The Type and technical data of JAC580N Series

Type	Power capacity kVA	Input current A	Output current A	Applicable motor		Heating power kW
				kW	HP	
Single-phase power supply: 220V, 50/60Hz						
JAC580N-0.4G-S2-5010A	1	5.4	2.3	0.4	0.5	0.016
JAC580N-0.7G-S2-5010A	1.5	8.2	4	0.75	1	0.030
JAC580N-1.5G-S2-5010A	3	14	7	1.5	2	0.055
JAC580N-2.2G-S2-5010A	4	23	9.6	2.2	3	0.072
Three-phase power supply: 380V, 50/60Hz						
JAC580N-0.7G-4-5010A	1.5	3.4	2.1	0.75	1	0.027
JAC580N-1.5G-4-5010A	3	5	3.8	1.5	2	0.050
JAC580N-2.2G-4-5010A	4	5.8	5.1	2.2	3	0.066
JAC580N-4G-4-5020A	5.9	10.5	9	3.7	5	0.120
JAC580N-5.5G-4-5020A	8.9	14.6	13	5.5	7.5	0.195
JAC580N-7.5G-4-5020A	11	20.5	17	7.5	10	0.262
JAC580N-11G-4-5030A	17	26	25	11	15	0.445
JAC580N-15G-4-5030A	21	35	32	15	20	0.553
JAC580N-18.5G-4-5041	24	38.5	37	18.5	25	0.651
JAC580N-22G-4-5041	30	46.5	45	22	30	0.807
JAC580N-30G-4-5042	40	62	60	30	40	1.01
JAC580N-37G-4-5042	57	76	75	37	50	1.20
JAC580N-45G-4-5051	69	92	91	45	60	1.51
JAC580N-55G-4-5051	85	113	112	55	75	1.80
JAC580N-75G-4-5061	114	157	150	75	100	1.84
JAC580N-90G-4-5061	134	180	176	90	125	2.08
JAC580N-110G-4-5061	160	214	210	110	150	2.55
JAC580N-132G-4-5070A	192	256	253	132	200	3.06
JAC580N-160G-4-5070A	231	307	304	160	250	3.61
JAC580N-200G-4-5080A	250	385	377	200	300	4.42
JAC580N-220G-4-5080A	280	430	426	220	300	4.87
JAC580N-250G-4-5080A	355	468	465	250	400	5.51
JAC580N-280G-4-5080A	396	525	520	280	370	6.21
JAC580N-315G-4-5090A	445	590	585	315	500	7.03

JAC580B Series

The JAC580B series is a MiNi inverter with lightweight volume and core control characteristics with sensorless vector control. The inverter is suitable for various small power conveyor belt, small volume, compact structure and support open-loop vector control and V/F control. The hardware configuration is advanced, which meets the small inertia with fast play fast stop, and improves production efficiency of equipment. The operation with high reliability is going in high temperature, high oil mist, dust and other harsh environment.



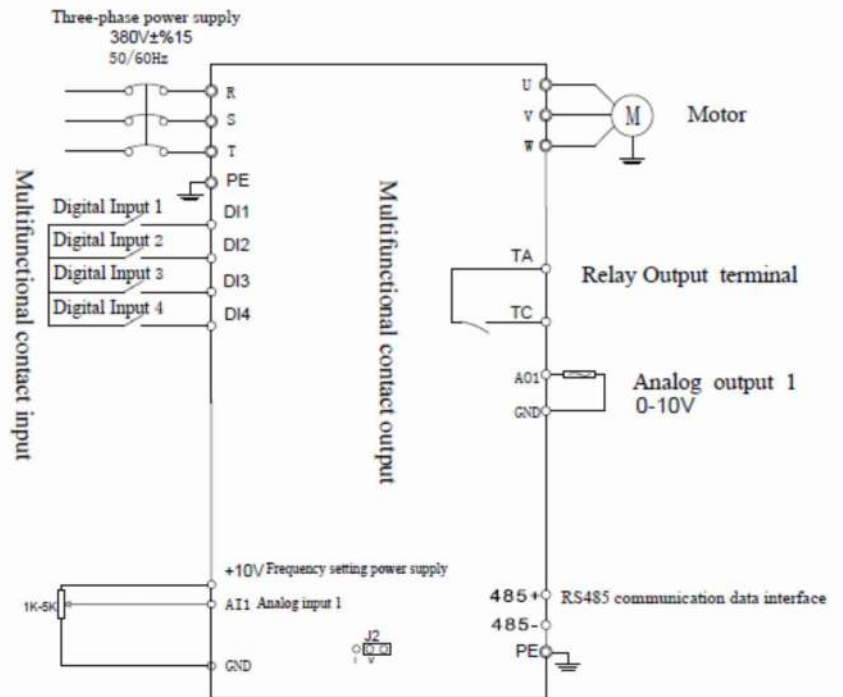
The Type and technical data of JAC580B Series

Type	Power capacity kVA	Input current A	Output current A	Applicable motor		Heating Power kW
				kW	HP	
Single-phase power supply: 220V, 50/60Hz						
JAC580B-0.4G-S2-5012	1	5.4	2.3	0.4	0.5	0.016
JAC580B-0.7G-S2-5012	1.5	8.2	4	0.75	1	0.030
JAC580B-1.5G-S2-5012	3	14	7	1.5	2	0.055
JAC580B-2.2G-S2-5022	4	23	9.6	2.2	3	0.072
Three-phase power supply: 380V, 50/60Hz						
JAC580B-0.7G-4-5012	1.5	3.4	2.1	0.75	1	0.027
JAC580B-1.5G-4-5012	3	5	3.8	1.5	2	0.050
JAC580B-2.2G-4-5012	4	5.8	5.1	2.2	3	0.066
JAC580B-4G-4-5022	5.9	10.5	9	3.7	5	0.120
JAC580B-5.5G-4-5022	8.9	14.6	13	5.5	7.5	0.195
JAC580B-7.5G-4-5022	11	20.5	17	7.5	10	0.262

Category	Terminal symbol	Terminal name	Function description
Power supply	+10V-GND	External connection of +10V power supply	Provide power supply of +10V externally, with maximize output current: 10mA It is generally used as working power supply for external potential meter and the resistance range of potentiometer is 1kΩ~5kΩ
	+24V-COM	External connection of +24V power supply	+24V power supply is provided outwards and generally used as the working power supply for digital input/output terminal and the power supply for external sensor Maximum output current: 200mA
	OP	Input terminal of external power supply	The factory default is connection to +24V When an external signal is used to drive DI1~DI5, OP shall be connected to external power supply and disconnected from +24V power supply terminal
Analog input	AI1-GND	Analog Input Terminal 1	1. Input voltage range: DC 0V~10V 2. Input resistance: 22kΩ
	AI2-GND	Analog Input Terminal 2	1. Input range: 4mA~20mA, 2. Input resistance: 500Ω for current input.
Digital	DI1- OP	Digital	1. Optical coupler isolation, with bipolar input
input		Input 1	2. Input resistance: 2.4kΩ 3. Voltage range in input level: 9V~30V
	DI2- OP	Digital Input 2	
	DI3- OP	Digital Input 3	
	DI4- OP	Digital Input 4	
	DI5- OP	High-speed pulse input terminal	Apart from the characteristics of DI1~DI5, it may be used as high-speed pulse input channel. Maximum input frequency: 50kHz
Analog output	AO1-GND	Analog Output 1	Jumper J5 on the control panel shall determine voltage or current output. Output voltage range: 0V~10V Output current range: 0mA~20mA
Relay output	T/A-T/C	Open terminal	Contact drive capacity: 25V ac, 3A, COSφ=0.4。 30Vdc, 1A
Communication interface	485+, 485-	Modbus	Modbus communication interface, non-isolated output

JAC100 Series

JAC100 series is a MiNi inverter with light volume, powerful software, a variety of control methods, built-in PID, simple PLC, high output torque and overload ability. This product not only has the general function of the inverter also has some special functions, such as triangle wave (disturbance function) suitable for textile and chemical fiber industry to replace the mechanical disturbance function, drafting functions suitable for reeling, which maintains a constant linear velocity function within a certain precision. It can be applied to some industries with special requirements.



The Type and technical data of JAC100 Series

Inverter model	power supply capacity kV A	Input Current A	Output Current A	Adaptation motor		Heating power consumption kW
				kW	HP	
Single-phase power supply: 220V, 50/60Hz						
JAC100-0.4G-S2-010	1	5.4	2.3	0.4	0.5	0.016
JAC100-0.7G-S2-010	1.5	8.2	4	0.75	1	0.030
JAC100-1.5G-S2-010	3	14	7	1.5	2	0.055
Three-phase power: 380V, 50/60Hz						
JAC100-0.7G-4-010	1.5	3.4	2.1	0.75	1	0.027
JAC100-1.5G-4-010	3	5	3.8	1.5	2	0.050
JAC100-2.2G-4-010	4	5.8	5.1	2.2	3	0.066

High Protection Intelligent Converter - Water Pump System

• Product overview

High protection intelligent inverter series is a new generation of high-end intelligent integration of my company independent research and development of ultra-high protective products. This product has the high degree of protection IP65, the dust and water, water pump motor junction box can be installed in various brands, access to various types of sensor signal. The system has the advantages of simple operation, good reliability, low noise and superior performance. It can also manage and monitor data through the Internet of things through RS485 interface, and realize the mobile APP operation.

• Product features

- (1) ultra-high protection level (Ip65), excellent dustproof and waterproof effect
- (2) professional software algorithm to support water supply device, better applicability
- (3) pressurization, voltage regulation, power on restart, water shortage protection and automatic restoration
- (4) quick pressure settings, fast parameter view
- (5) the Internet of things function



JAC580Y Series - Special for Rare Earth Permanent Magnet Synchronic

• Product overview

JAC580Y permanent magnet sensorless inverter, the inverter has the advantages of high performance, fast speed, high precision control; direct drive, high transmission efficiency, close to 100%; the motor efficiency high, close to 99%; the rated load condition, 0 second free acceleration and deceleration, automatic current limiting, automatic voltage regulation, to ensure that no optimal fault control. Speed sensorless current vector control: torque control accuracy of 5%; stability control accuracy + 5.5rpm; low frequency carrying capacity; low noise, small size.



JAC580L Series - Special for Wire Drawing Machine

• Product overview

The special machine mainly optimizes the tension control of the water tank type double frequency wire drawing machine and the straight wire drawing machine. The diameter calculation has been cancelled, and the users can carry out tension control in the way of individual PID or main +PID according to the working conditions. This product has a variety of application macros, simplify the debugging process, simple debugging, a single set of PID meet to end plates, the same models to replace the different size of the disk without setting the roll diameter, support different diameters and different material thread, providing multiple sets of PID debugging convenient for different occasions, to support the minimum differential pressure range of 2V. it can save the pendulum potentiometer amplification gear. Support Modbus, Profibus-DP, CANopen communication.



JAC580M Series - Special for Machine tool Spindle

• Product overview

CNC spindle frequency converter, mainly used for positioning, pulse synchronization and other occasions. When used for machine tool spindle applications, to achieve closed-loop control of the spindle motor with encoder, with quick response, smooth speed and other characteristics, and can cooperate with the PC system different (numerical control system) to realize accurate stop of the spindle, rigid tapping, positioning and other functions demand. The real implementation of the AC electromechanical decoupling, the operation control of DC motor, speed discrimination and rotor flux accurately, 16 segment programmable control speed, acceleration and deceleration time of each section can be adjusted to enhance efficiency, low torque to produce enough torque to run in 1Hz or 0.5Hz, to ensure the cutting ability of rough machining when strong torque, fast dynamic response speed and high accuracy, speed and the actual speed of the motor to ensure high linearity, strong overload capacity, 150% of the rated output current for a minute, meet the processing load of impact protection, complete functions, high reliability, convenient operation and maintenance, noise smoothing function, less noise, using independent duct design, three thickened paint, all kinds of dirt, dust, moisture and harsh environment adaptability.



1E Frequency Converter Cabinet Series

• Product overview

This series of frequency inverter cabinet according to the research and development technical specification (FKY1505HDQ001SSZZ-B01-001) requirements, implementation of the RCC-E K3 class quality appraisal procedure, the series of cabinets located in the nuclear power plant environmental conditions, the required safety functions, execution may affect the safety function of the potential aging mechanism and evaluation of the expected target, identification test, qualified life acceptance criteria and software verification and validation and identification of elements, implementation methods and procedures for the implementation of 1E grade identification. Fully verify that the 1E frequency converter cabinet can maintain the integrity of the equipment under the normal operating conditions, the limit environment, the seismic load, and the security function after the earthquake.

IOT-DTU

• Product overview

IOT-DTU is a wireless data transmission terminal based on GPRS/3G/NB-IOT network, to provide a full transparent data channel, can realize remote communication, wireless network, convenient, let your device easily realize the wireless connection and Internet. It has many advantages, such as flexible and quick operation, low operation cost and so on. It can be applied to power systems, industrial monitoring, traffic management, meteorology, water treatment, environmental monitoring, finance, securities, coal, oil and other industries.



The Type and technical data of IOT-DTU

Type	IOT-2G-RS485-Y	IOT-NB-RS485-Y	IOT-3G-RS485-L	IOT-2G-RS485-D	IOT-NB-RS485-D
Access mode	GPRS	NB-IOT	3G	2G	NB-IOT
System standard	GSM/GPRS /EDGE	NB-IOT	WCDMA	CDMA	NB-IOT
Cloud platform	√	√	√	√	√
Serial port	RS485*1	RS485*1	RS485*1	RS485*1	RS485*1
Parameter setting mode	serial port, network	serial port, network	serial port, network	serial port, network	serial port, network



To Provide You With Industrial Control Systems Integration Solutions

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