



Products Catalog

Inverter/Soft Starter/Control Panel

Leading Automation Control Solution Provider

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ZIRI ELECTRICAL TECHNOLOGY CO.,LTD.



Company Introduction

About US

Http://www.chziri.com

ZIRI Electrical Technology Co.,Ltd.is engaged in R&D,manufacture,sale,distribution and service of frequency inverter,soft starter,control cabinet and other control products.It's also an automation & drive focused global company,providing global customers with control,display,drive and system solutions & other related products and services.

ZIRI Electrical would like to listen and understand our clients requirement,by improving and upgrading our product functions and performance continuously,we provide and develop perfect products and solutions according to different requirement of the industry.CHZIRI frequency drive and soft starter have been used and applied successfully in packing,printing,textiles,plastic injection, metallurgy, machine tool,wood cutting,stone carving,ceramic,glass, paper making industry, crane, fan & pump, new energy resources etc.

At present, ZIRI Electrical has become the top professional manufacturer that devotes to researching, developing, producing and marketing frequency inverter and soft starters in China.Thanks to the good quality, we respectively obtained ISO9001, CE,CCC and other certificates.

In order to provide more complete service and product for our customers internationally, meeting our customers expectations in the respect of time of delivery, solution support, after sales services and product customization support, ZIRI Electrical has been searching for capable companies as our business partners, product agents and distributors, bringing good product quality and professional service to our clients globally. Up until now,we have already got customers and business partnerships built up in over 40 countries, which include Europe,North America, South America, Asian–pacific region, Middle East and Australia etc.

We adhere to the remarkable tradition of technical innovation, continue to introduce new generation products to meet market demands. make great strides forward gradually to high–end application domain, and strive to shoulder heavy responsibilities to create a full of hope for the future.

ZIRI Electrical, your professional automation control electrical partner !

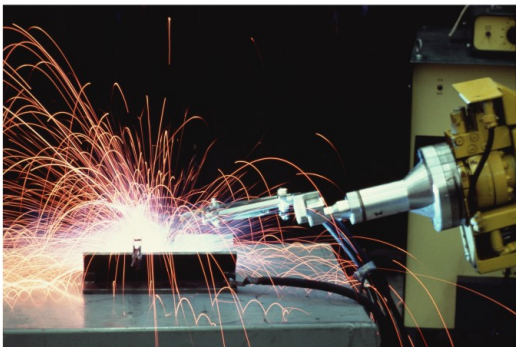


CHZIRI Certificate



CHZIRI Clients





Catalog

Inverter

- 02 / ZVF300H Series
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- 40 / Intelligence Pump Controller ZBK Series
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NOTE: Products listed in the catalog are our standard products.
Whose parameters are for reference only. If you have any
questions. Please contact with us directly. Parameters
information subject to change will not notice again.

Frequency Inverter

High Performance Vector Control Frequency Inverter

ZVF300H Series frequency inverter has the good effect energy conservation,
fine speed adjustment performance, stable operation, electrical machinery
soft start, protect function and self diagnostics fault and other advantages.



ZVF300H Frequency Inverter

Main Features

ZVF300H Series frequency inverter are high performance open loop vector inverters for controlling asynchronous AC induction motors.

- 1.Output frequency :0-600Hz.
- 2.Multiple password protection mode.
- 3.Remote control operation keypad, convenient for remote control.
- 4.V/F curve &multi-inflection point setting, flexible configuration.
- 5.Keyboard parameter copy function. easy to set the parameters for multi-inverters.
- 6.Wide industry application. to expand special function according to different industries.
- 7.Multiple hardware and software protection and optimized hardware for anti-interference technology.
- 8. Multi-step speed and wobble frequency running (external terminal 15 steps speed control).
- 9.Unique adaptive control technology. Auto current limiting and voltage limiting and under-voltage restrain.
- 10.Optimized external installation and internal structure and independent air flue design, fully enclosed electrical space design.
- 11.Output automatic voltage regulation function (AVR),automatically adjust the output pulse width. to eliminate the influence of the grid change on load.
- 12.Built-in PID regulation function to facilitate the realization of closed loop control of the temperature, pressure and flow, and reduce the cost of the control system.
- 13.Standard MODBUS communication protocol. Easy to achieve the communication between PLC, IPC and other industrial equipments.

Application Range

- 1.Handing machinery, conveyor.
- 2.Wire drawing machines, industrial washing machines.sports machines.
- 3.Fluid machinery: Fan, water pump,blower,music fountain.
- 4.Public mechanical equipment: high precision CNC machine tools,CNC machine.
- 5.Metal processing, wire drawing machine and other mechanical equipment.
- 6.Paper-making equipment, chemical industry, pharmaceutical industry, textile industry, etc.

Demonstration Of The Model

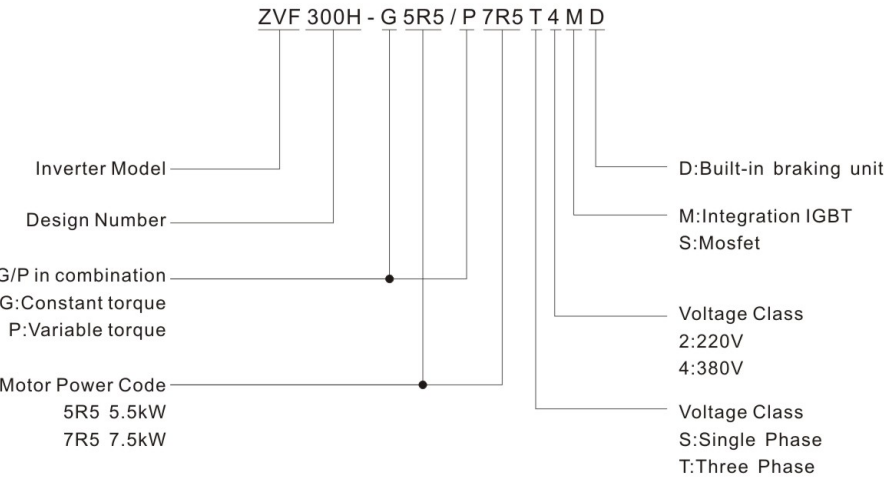


Fig.1



Fig.2



Fig.3



Fig.4

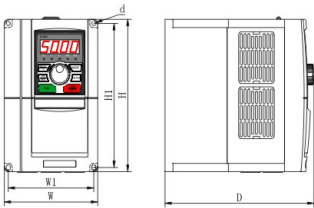


Fig.1

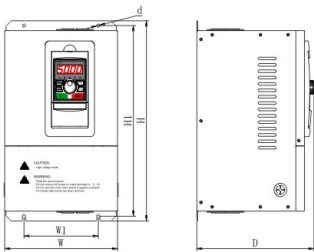


Fig.2

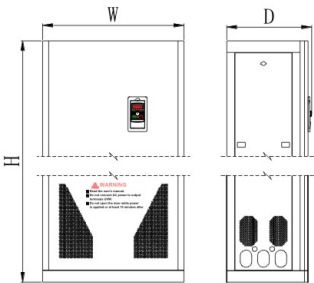


Fig.3

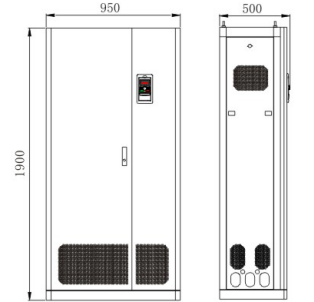


Fig.4

ZVF300H Series High Performance Frequency Inverter

Input Voltage (V)	Output Voltage(V)	Power Range (kW)
Single phase 220V± 20%	Three phase 0~Input Voltage	0.4kW~3.7kW
Three phase 380V ± 20%	Three phase 0~Input Voltage	0.75kW~630kW

G type Overload capacity :150% 1 minute; 180% 1 second;200% transient protection.
P type Overload capacity :120% 1 minute; 150% 1 second;180% transient protection.

Inverter Outline& Mounting Dimension (Unit:mm)

Inverter Model	Power (kW) G/P	Current (A)	Dimension (mm)						Figure
			H	H1	W	W1	D	d	
ZVF300H-G0R4S2SD	0.4	2.4	185	175	118	108	170	5	Fig.1
ZVF300H-G0R7S2SD	0.75	4.5	185	175	118	108	170	5	
ZVF300H-G1R5S2SD	1.5	7.0	185	175	118	108	190	5	
ZVF300H-G2R2S2SD	2.2	10	185	175	118	108	190	5	
ZVF300H-G3R7S2SD	3.7	16	215	205	145	135	193	5	
ZVF300H-G0R7T4SD	0.75	2.5	185	175	118	108	170	5	
ZVF300H-G1R5T4SD	1.5	3.7	185	175	118	108	170	5	
ZVF300H-G2R2T4SD	2.2	5.0	185	175	118	108	170	5	
ZVF300H-G3R7/P5R5T4MD	3.7/5.5	9.0/13	185	175	118	108	190	5	
ZVF300H-G5R5/P7R5T4MD	5.5/7.5	13/17	215	205	145	135	193	5	
ZVF300H-G7R5/P011T4MD	7.5/11	17/25	215	205	145	135	193	5	Fig.2
ZVF300H-G011/P015T4MD	11/15	25/32	265	253	185	174	215	6	
ZVF300H-G015/P018T4MD	15/18.5	32/37	265	253	185	174	215	6	
ZVF300H-G018/P022T4MD	18.5/22	37/45	385	370	220	150	210	7	
ZVF300H-G022/P030T4MD	22/30	45/60	385	370	220	150	210	7	
ZVF300H-G030/P037T4M	30/37	60/75	450	435	260	180	225	7	
ZVF300H-G037/P045T4M	37/45	75/90	450	435	260	180	225	7	
ZVF300H-G045/P055T4M	45/55	90/110	510	490	320	220	275	9	
ZVF300H-G055/P075T4M	55/75	110/150	510	490	320	220	275	9	
ZVF300H-G075/P090T4M	75/90	150/176	570	550	380	260	320	9	
ZVF300H-G090/P110T4M	90/110	176/210	570	550	380	260	320	9	Fig.3
ZVF300H-G110/P132T4M	110/132	210/253	570	550	380	260	320	9	
ZVF300H-G132/P160T4M	132/160	253/300	570	550	380	260	320	9	
ZVF300H-G160/P185T4M	160/185	300/340	800	775	460	350	330	11	
ZVF300H-G185/P200T4M	185/200	340/380	800	775	460	350	330	11	
ZVF300H-G200/P220T4M	200/220	380/420	900	870	550	400	330	13	
ZVF300H-G220/P250T4M	220/250	420/470	900	870	550	400	330	13	
ZVF300H-G250/P280T4M	250/280	470/520	950	920	650	550	385	13	
ZVF300H-G280/P315T4M	280/315	520/600	950	920	650	550	385	13	
ZVF300H-G160/P185T4M	160/185	300/340	1100		460		330	cabinet	
ZVF300H-G185/P200T4M	185/200	340/380	1100		460		330	cabinet	Fig.4
ZVF300H-G200/P220T4M	200/220	380/420	1200		550		330	cabinet	
ZVF300H-G220/P250T4M	220/250	420/470	1200		550		330	cabinet	
ZVF300H-G250/P280T4M	250/280	470/520	1300		650		385	cabinet	
ZVF300H-G280/P315T4M	280/315	520/600	1300		650		385	cabinet	
ZVF300H-G315/P350T4M	315/350	600/640	1600		660		415	cabinet	
ZVF300H-G350/P400T4M	350/400	640/690	1750		750		470		
ZVF300H-G400/P450T4M	400/450	690/790	1750		750		470		
ZVF300H-G450/P500T4M	450/500	790/860	1900		950		520		
ZVF300H-G500/P560T4M	500/560	860/950	1900		950		520		
ZVF300H-G560/P630T4M	560/630	950/1100	1900		950		520		
ZVF300H-G630T4M	630	1100	1900		950		520		

ZVF300 T2 Series Frequency Drive

Input Voltage (V)	Output Voltage(V)	Power Range (kW)
Three phase 220V± 20%	Three phase 0~input voltage	0.4kW~110kW
Overload Capacity : 150% 1 minute ;180% 1 second ;200% transient protection.		

Application Range

ZVF300 T2 Series frequency drive is suitable for all kind of mechanical devices such as metallurgy,plastic,textile,food,chemical industry,paper making,drug manufacture,printing, construction materials and hoisting for driving and speeding control of AC asynchronous motor.

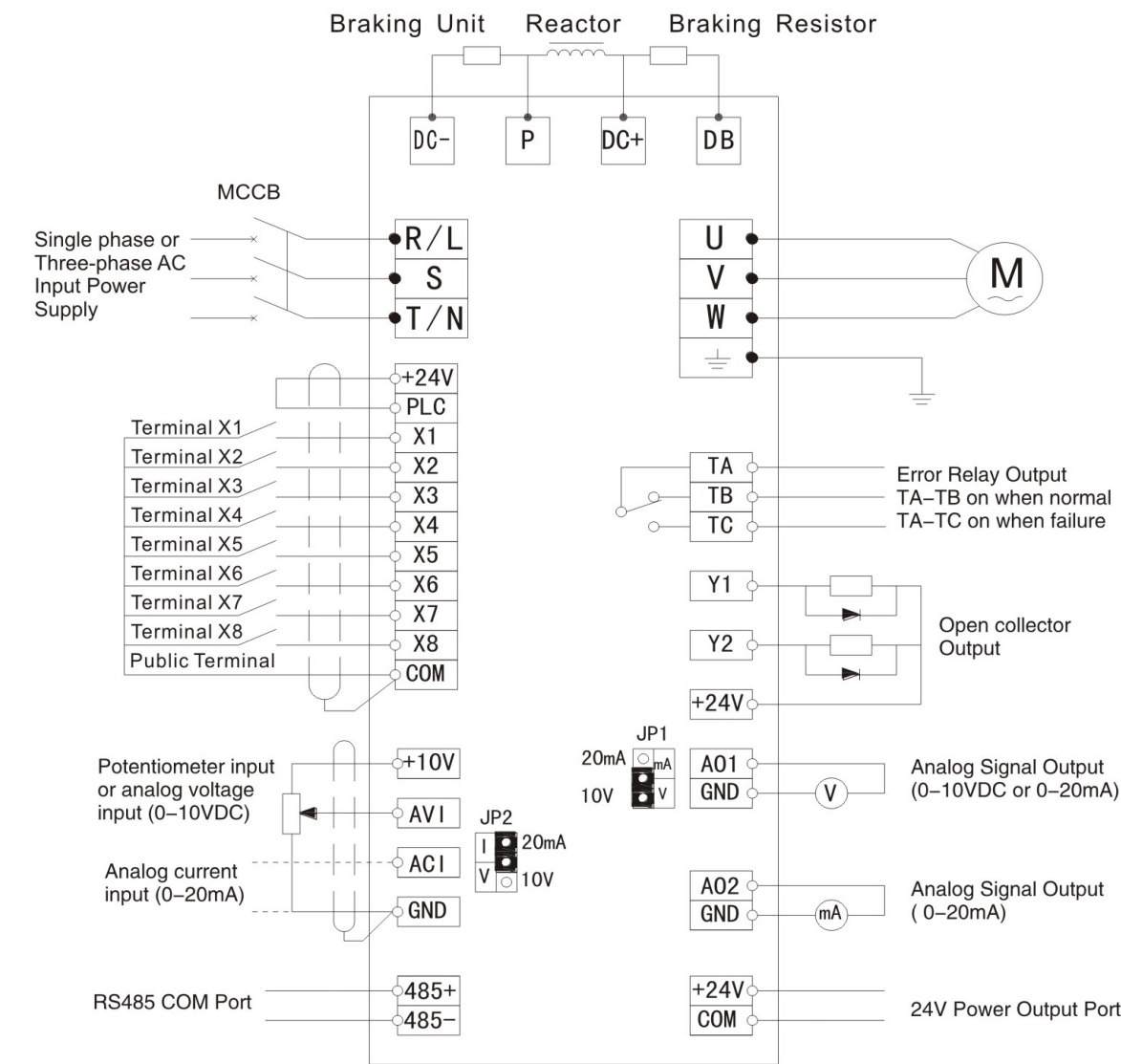
Inverter Outline& Mounting Dimension (Unit:mm)

Inverter Model	Power (kW)	Current (A)	Dimension (mm)						Figure
			H	H1	W	W1	D	d	
ZVF300-G0R4T2MD	0.4	2.4	185	175	118	108	170	Φ5	Fig.1
ZVF300-G0R7T2MD	0.75	4.5							
ZVF300-G1R5T2MD	1.5	7.0	185	175	118	108	190	Φ5	
ZVF300-G2R2T2MD	2.2	10							
ZVF300-G3R7T2MD	3.7	16	215	205	145	135	193	Φ5	
ZVF300-G5R5T2MD	5.5	25	265	253	185	174	215	Φ6	
ZVF300-G7R5T2MD	7.5	30	380	360	220	145	230	Φ6	Fig.2
ZVF300-G011T2M	11	42	460	443	260	177	268	Φ7	
ZVF300-G015T2M	15	55							
ZVF300-G018T2M	18.5	70	620	603	265	182	300	Φ9	
ZVF300-G022T2M	22	80							
ZVF300-G030T2M	30	110							
ZVF300-G037T2M	37	130	720	702	365	240	360	Φ9	
ZVF300-G045T2M	45	160							
ZVF300-G055T2M	55	200							
ZVF300-G075T2M	75	270							
ZVF300-G090T2M	90	320	1190		493		390	Fig.3	
ZVF300-G110T2M	110	380							1430

Specification and Technical Indications

Item		Item Description
Input	Rated voltage& Frequency	Single /Three phase 200-240VAC. Three phase 360-440VAC.50Hz/60Hz
	Allowable Voltage range	Voltage fluctuate range: ± 10% Voltage unbalance rate: <3%;Frequency fluctuation: ≤5%
Output	Rated voltage	Three phase 0~ input AC voltage
	Frequency	0.00~600.00Hz
Control Function	Overload capacity	Type G: 150% 1minute, 180% 1 second, 200% transient protection Type P: 120% 1minute, 150% 1 second, 180% transient protection
	Modulation mode	Optimal space voltage vector PWM modulation
	Control mode	Sensorless vector control (SVC), V/F control, Torque control
	Frequency accuracy	Digital setting: Max. Frequency × ±0.01% Analog setting: Max. Frequency × ±0.2%
	Frequency resolution	Digital setting :0.01HZ; Analog setting :Max. Frequency × 0.1%.
	Starting frequency	0.00~50.00Hz
	Torque lift	Automatic torque lift: To lift the torque automatically according to the output current. Manual torque lift, Range: 0.1—30.0%
	Slip compensation	Setting range: 0~100%. The inverter output frequency can be auto-regulated within this range according to the motor load, so as to reduce the speed variation of the motor due to load fluctuation.
	Acceleration/deceleration time	Minutes/Seconds can be selected as time unit.0.1~3600S can be set in sequence.
	Carrier frequency	1.0~15.0KHz
	Jog function	Jog frequency range: 0.01~600.00Hz. Jog acceleration /deceleration time 0.1~3600.0S can be set.
	V/F curve	1: linear curve; 2: quadratic; 3: user defined V/F curve
	Automatic energy-saving operationAutomatic energy -saving operation	Auto optimize V/F curve according to the load changes to realize the energy saving operation.
	Auto voltage regulation (AVR)	When the network voltage changes, it can regulate PWM output automatically to maintain constant voltage.
Operation Function	Built-in PID	This can form a convenient closed-loop control system (CLCS)and is applicable to pressure control, flow control and other process control.
	Operating command	Operation panel control, external terminal control and COM control
	Frequency setting	Keypad potentiometer setting, operation panel ▲▼setting, external terminal UP/DOWN setting, analog voltage signal or external potentiometer setting, analog current signal setting, terminal combination setting, 485 COM setting and so on.
	Input Signal	Forward/Reverse signal, multi-speed signal, fault signal, reset signal, etc.
Braking function	Output signal	Programmable relay, open collector output, Fault signal output.
	Multi-function analog and digital output terminal	This can realize the output frequency output current, and other physical quantity by output 0-10V or 0-20mA DC signal and 0-10KHz digital signal output.
	Dynamic braking	With an external braking resistor, the maximum braking torque may reach 100%.
	DC Braking	This can be selected when the motor starts or stops with the action frequency of 0-600Hz,action current level of 0-150% and actuation time of 0-50sec., which can be set in sequence.
Other Function	Other Function	Skip frequency, Jog function, Counter, Rotation speed tracking, Momentary power loss restart, Frequency upper/lower limiting, Acceleration/ Deceleration mode can be adjusted, Frequency meter and Voltmeter output, Multi-speed/ program running, Two wire mode/ three wire mode control, Wobble frequency control, Multi-function input terminal selection, Fault auto reset, RS485 serial communication.
	Protection Function	Input phase loss protection, Over current protection, Overload protection, Over voltage protection, Under voltage protection, Over heat protection etc.
	LED display	Can display the real time running status of the inverter, monitor parameter,function parameter and fault code and other information of the inverter.
	Matching parts	Braking assembly, remote keypads and wire connection, communication panel.
Ambient	Place to be used	Indoor location free from direct exposure to sun light, high humidity or dew condensation, high levels of dust, corrosive gas, explosive gas, inflammable gas, oil mist, salt and etc
	Altitude	Below 1000 M
	Ambient Temperature	-10℃ to +45℃ (Bare Machine: -10℃ to+50℃)
	Humidity	20%-90% RH without dew condensation
	Vibration	<0.5G
	Storage temperature	-20~+60℃
Structure	Protection class	IP20
	Cooling mode	Forced air cooling
	Installation mode	Wall mounted or floor-type cabinet

ZVF300H Frequency Inverter's Wiring Diagram

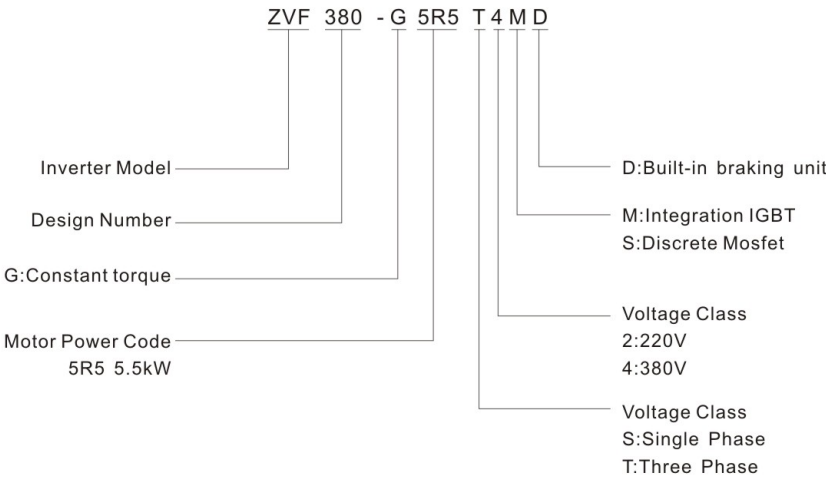


ZVF380 Series VFD

Main Features

1. Advanced vector control algorithm, adaptive to parameter changes caused by motor changes, improve the tolerance of system control.
2. No PG vector control (SVC), PG vector control (VC), V/F control, torque control and other control methods can be selected.
3. Auto tuning of static and dynamic motor parameters can be realized, so that the inverter can be automatically adjusted to the best operating state.
4. NPN and PNP two modes of multi-function input terminals, can provide compatible switch signal with any external equipment.
5. Built-in PLC function, which can realize operation modes such as stopping after a single cycle, maintaining the final value after a single cycle, and continuous cycle etc.
6. Rich combination of frequency sources, more flexible to use.
7. Special functions such as swing frequency, fixed length and counting can be realized.
8. Realize the delay function of programmable relay and open collector output.
9. Droop control function realizes automatic load balance.
10. High-speed pulse input and output function.
11. Built-in PID function to realize closed-loop control of flow, temperature and pressure.
12. Standard MODBUS communication protocol, easy to realize the communication with PLC, industrial computer and other industrial control equipment.
13. Multiple password protection to protect user rights.
14. Compact structure, independent air duct design, greatly improve power density, and effectively reduce user installation volume requirements.
15. Wide grid voltage design, especially suitable for domestic low-voltage special occasions.
16. Wide industry applications, special function modules can be expanded according to different industries.

Demonstration Of The Model



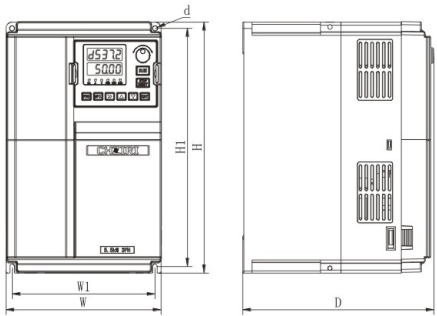


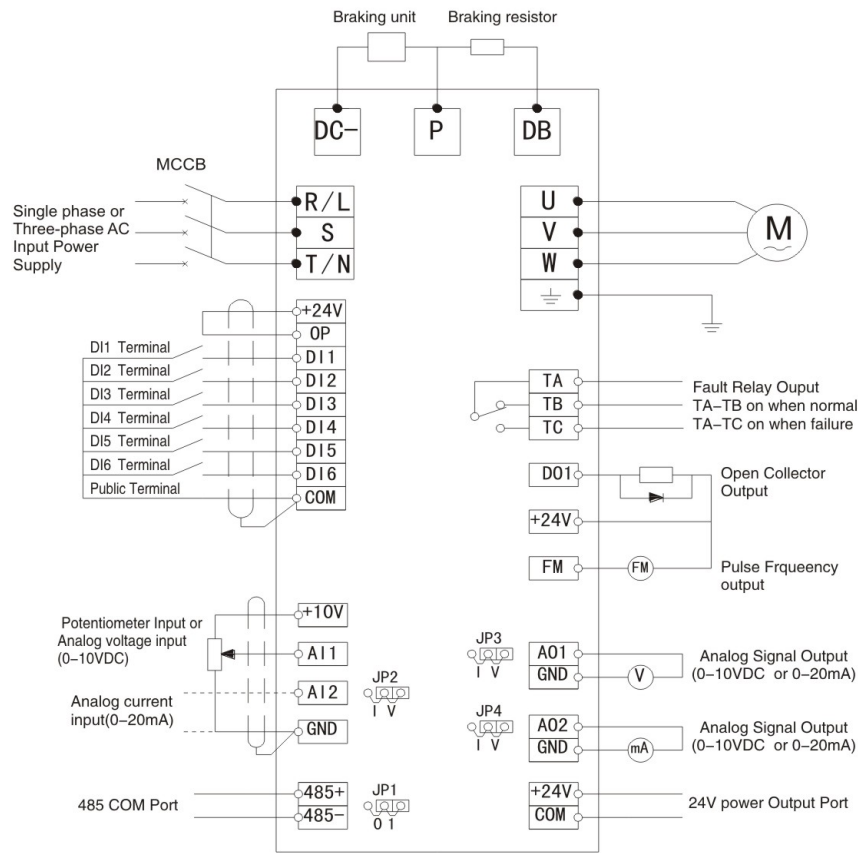
Fig.1

VFD Outline& Mounting Dimension (Unit:mm)

Inverter Model	Power (kW)	Current (A)	Dimension (mm)						Figure
			H	H1	W	W1	D	d	
ZVF380-G0R4S2MD	0.4	2.3	186	172	125	113	180	Φ5	Fig.1
ZVF380-G0R7S2MD	0.75	4.0	186	172	125	113	180	Φ5	
ZVF380-G1R5S2MD	1.5	7.0	186	172	125	113	180	Φ5	
ZVF380-G2R2S2MD	2.2	9.6	186	172	125	113	180	Φ5	
ZVF380-G3R7S2MD	3.7	17	249	236	160	147	197	Φ5	
ZVF380-G5R5T2MD	5.5	25	322	304	208	194	204	Φ6	
ZVF380-G7R5T2MD	7.5	32	322	304	208	194	204	Φ6	
ZVF380-G0R7T4MD	0.75	2.1	186	172	125	113	180	Φ5	
ZVF380-G1R5T4MD	1.5	3.8	186	172	125	113	180	Φ5	
ZVF380-G2R2T4MD	2.2	5.1	186	172	125	113	180	Φ5	
ZVF380-G3R0T4MD	3.0	6.8	186	172	125	113	180	Φ5	
ZVF380-G4R0T4MD	4.0	9.0	249	236	160	147	197	Φ5	
ZVF380-G5R5T4MD	5.5	13	249	236	160	147	197	Φ5	
ZVF380-G7R5T4MD	7.5	17	249	236	160	147	197	Φ5	
ZVF380-G011T4MD	11	25	322	304	208	194	204	Φ6	
ZVF380-G015T4MD	15	32	322	304	208	194	204	Φ6	

From 18.5kW and above, you can contact with our company for more details.

ZVF380 VFD's Standard Wiring Diagram



Technical indications

Item		Item Description
Input	Rated Voltage&Frequency	Single/Three phase 200-240VAC, Three phase 360-440VAC,50/60Hz
	Allowable voltage range	Voltage fluctuate range:10% Voltage unbalance rate:3% Frequency fluctuation: ≤5%
Output	Rated voltage	Three phase 0 ~ Input AC voltage
	Frequency	0.00 ~ 500.00Hz
Overload capacity		Type G:150% 1minute,180% 3 second, 200% Instant protection Type P:120% 1minute,150% 3 second, 180% Instant protection
Control Function	Modulation mode	Optimize space voltage vector PWM modulation
	Control mode	Closed loop control (FVC), open loop control (SVC), V/F control
	Frequency resolution	Digital setting:0.01Hz; Analog setting: Max. frequency×0.1%
	Starting torque	Type G:0.5Hz/150% (SVC); 0Hz/180% (FVC) Type P:0.5Hz/100%
	Speed range	1:100 (SVC) 1:1000 (FVC)
	Steady velocity precision	± 0.5% (SVC) ± 0.02% (FVC)
	Torque control precision	± 5% (FVC)
	Torque boost	Automatic torque boost,automatically boost torque according to output current. Manual torque boost, range:0.1~30.0%
	V/F curve	3 ways:linear curve; Multi-point Curve; Nth power V/F curve. (1.2th power,1.4th power,1.6th power,1.8th power,2th power.)
	V/F separation	2 ways:full separation, half separation
	Acceleration and deceleration curve	Linear or S-curve acceleration/deceleration mode. 4 acceleration and deceleration time, the range of acceleration and deceleration time is 0.0~6500.0s.
	Carrier frequency	1.0 ~ 15.0KHz
	Jog function	Jog frequency range: 0.01 ~ 50.00Hz, jog acceleration and deceleration time 0.1 ~ 6500.0 can be set.
	Simple PLC multi-speed operation	Realize up to 16-speed operation through built-in PLC or control terminal.
	Automatic voltage regulator(AVR)	When the grid voltage changes, it can automatically adjust the PWM output to keep the output voltage constant.
	Built-in PID	Conveniently form a closed-loop control system, suitable for process control such as pressure control and flow control.
	Over-voltage over current stall control	Automatically limit the current and voltage during operation to prevent frequent over-current and over-voltage trips.
	Rapid current limit function	Minimize over-current faults and protect the inverter from normal operation.
Special feature	Torque limit and control	The "shovel" feature automatically limits the torque during operation to prevent frequent over-current trips; closed-loop vector mode can realize torque control.
	Outstanding performance	Realize asynchronous motor control with high-performance current vector control technology.
	Power dip ride through	When instantaneous power failure occurs, the load feedback energy is used to compensate for the voltage drop, and maintain the inverter to continue running for a short time.
	Rapid current limit	Avoid frequent over-current faults of the inverter.
	VirtualI/O	5 groups of virtual DIDO, can realize simple logic control.
	Timing control	Timing control function: set time range 0.0Min ~ 6500.0Min.
	Multi-motor switchover	Two motors can be switched over via two groups of motor parameters.
	Multithreaded bus support	Support 4 field buses: Modbus, Profibus-DP, CANlink, CANopen.
Multi-encoder support	Support differential, open collector, UVW, resolver, sine and cosine encoders.	

Item		Item Description
Operation function	Operation instruction	Operation panel control, external terminal control, serial communication control. Can be switched in a variety of ways.
	Frequency setting	10 kinds of frequency sources: digital setting, analog voltage setting, analog current setting. Pulse setting, serial port setting. Can be switched in a variety of ways.
	Auxiliary frequency source	10 kinds of auxiliary frequency sources. Flexible realization of auxiliary frequency fine-tuning and frequency synthesis.
	Input terminal	Standard: 6digital input terminals, one of which supports high-speed pulse input up to 100kHz. 2 analog input terminals, 1 only supports 0 ~ 10V voltage input. 1 supports 0 ~ 10V voltage input or 0 ~ 20mA current input. Expansion capacity: 5 digital input terminals. 1 analog input terminal, support -10V ~ 10V voltage input, and support PT100/PT1000.
Braking function	Output terminal	Standard: 1 high-speed pulse output terminal (open collector type is optional). Support 0~100kHz square wave signal output. 1 digital output terminal, 1 relay output terminal. 2 analog output terminals, support 0~20mA current output or 0~10V voltage output. Expansion capacity: 1 digital output terminal, 1 relay output terminal. 1 analog output terminal, support 0~20mA current output or 0~10V voltage output.
	Dynamic braking	External braking resistor, maximum braking torque 100%.
Braking function	DC braking	It can be selected separately when starting and stopping, the action frequency is 0 ~ 600Hz, the action current level is 0 ~ 150%, the action time is 0 ~ 50 seconds, continuous can be set.
	LED display	Real-time display of the inverter's operating status, monitoring parameters, function parameters, fault codes and other information.
Other functions	Other functions	Jump frequency, counter, speed tracking, restart after instantaneous power failure, upper and lower limit of frequency, adjustable acceleration and deceleration mode, two-wire/three-wire control, swing frequency control, automatic fault reset, frequency arrival output, cooling fan control, multi-function buttons Custom settings, etc.
	Protection function	Power-on motor short-circuit detection, input and output phase loss protection, over current protection, overvoltage protection, under voltage protection, overheat protection, overload protection, etc.
Optional accessories		Braking component, remote operation panel and connecting cable, communication board.
Environment	Place to be used	Indoors, free from direct sunlight, free of dust, corrosive gas, flammable and explosive gas, oil mist, water vapor, dripping water or salt.
	Altitude	Less than 1000 meters.
	Ambient temperature	-10~+45℃[The bare is:-10~+50℃]
	Humidity	20~90%RH,No condensation.
	Vibration	<0.5G
	Storage temperature	-20~+60℃
Structure	Protection level	IP20
	Cooling method	Forced air cooling
	Installation method	Wall-mounted, floor-standing electric control cabinet.



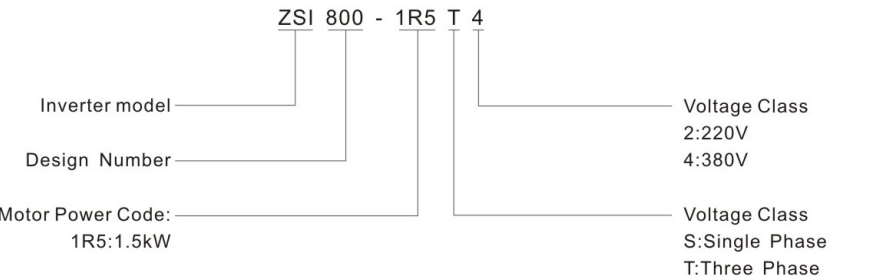
ZSI800 Solar Pumping Inverter

Main Features

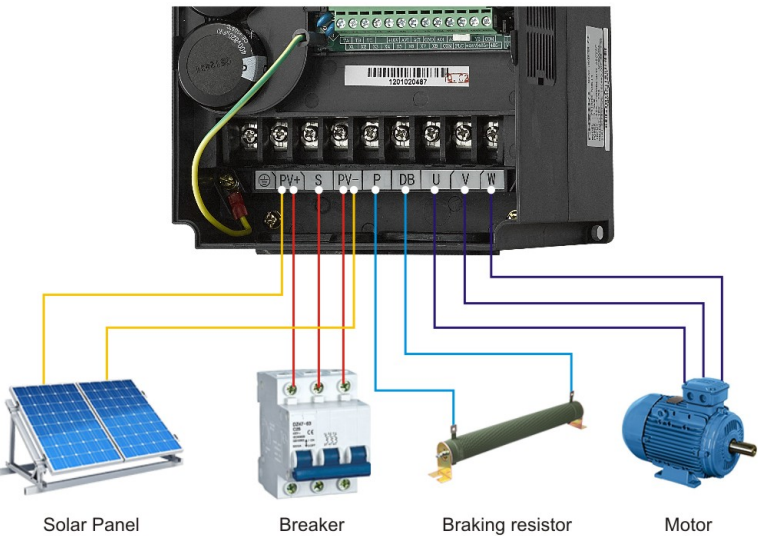
The product ZSI800 Solar Inverter Series applies to transforming three phase 380V or Single phase 220V submersible deep well pump into solar water pump system. It works this way that direct current produced by solar module inputs into alternating current which drives all kinds of water pump, especially for submersible well pump.

- Main features of this products are high quality, multifunctional, low noise, wide universality.etc.
- 1.Adopt advanced MPPT technology, fully make use of the power efficiency from solar module array.
 - 2.With the changing of the sunshine, it can automatically adjust motor speed and water flow out of pump.
 - 3.It controls automatically when water level is high in pool. it stops work automatically, however, when water level is low.it activates automatically.
 - 4.With the function of automatic protection. it can avoid pump form dry running while no water source.
 - 5.Hibernate automatically under weak light such as sunset, quit hibernating under strong light such as sunrise.
 - 6.To improve the liability of the working system with various protection.
 - 7.Professionally designed for users of deep well pumps -friendly control and convenient use.

Demonstration Of The Model



ZSI800 Solar Pumping Inverter Wiring Diagram



Solar Pumping Inverter Outline &Mounting Dimension(Unit:mm)

Inverter Model	Voltage (V)	Power (kW)	Current (A)	Dimension (mm)						Figure
				H	H1	W	W1	D	d	
ZSI800-0R4S2	260-380VDC (Single Phase 220V±15%)	0.4	2.4	185	175	118	108	170	5	Fig.1
ZSI800-0R7S2		0.75	4.5	185	175	118	108	170	5	
ZSI800-1R5S2		1.5	7.0	185	175	118	108	190	5	
ZSI800-2R2S2		2.2	10.0	185	175	118	108	190	5	
ZSI800-0R7T4	420-750VDC (Three Phase 400V±15%)	0.75	2.5	185	175	118	108	170	5	Fig.2
ZSI800-1R5T4		1.5	3.7	185	175	118	108	170	5	
ZSI800-2R2T4		2.2	5.0	185	175	118	108	170	5	
ZSI800-3R7T4		3.7	9.0	185	175	118	108	190	5	
ZSI800-5R5T4		5.5	13	215	205	145	135	193	5	
ZSI800-7R5T4		7.5	17	215	205	145	135	193	5	
ZSI800-011T4		11	25	265	253	185	174	215	6	
ZSI800-015T4		15	32	265	253	185	174	215	6	
ZSI800-018T4		18.5	37	385	370	220	150	210	7	
ZSI800-022T4		22	45	385	370	220	150	210	7	
ZSI800-030T4		30	60	450	435	260	180	225	7	
ZSI800-037T4		37	75	450	435	260	180	225	7	
ZSI800-045T4		45	90	510	490	320	220	275	9	
ZSI800-055T4		55	110	510	490	320	220	275	9	
ZSI800-075T4		75	160	570	550	380	260	320	9	
ZSI800-090T4		90	176	570	550	380	260	320	9	
ZSI800-110T4		110	210	570	550	380	260	320	9	
ZSI800-132T4		132	253	570	550	380	260	320	9	
ZSI800-160T4		160	300	800	775	460	350	330	11	

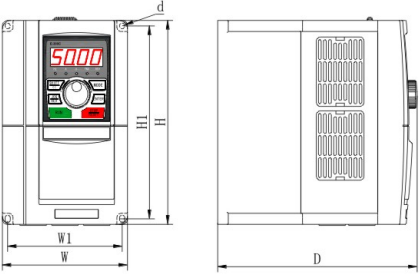


Fig.1

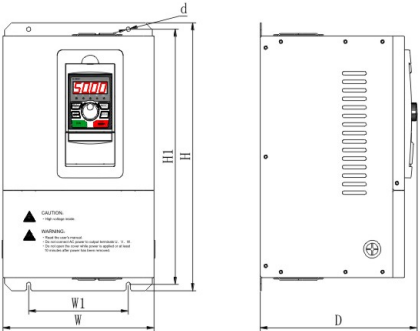


Fig.2

Main Function

Instant motor protection	Seven frequency options	Intelligent setting parameters	Automatic energy saving control	Wide voltage design
PLC Easy plc operation	485 Rs485 communication	Multi-speed operation	Automatic voltage regulation	Wide voltage design

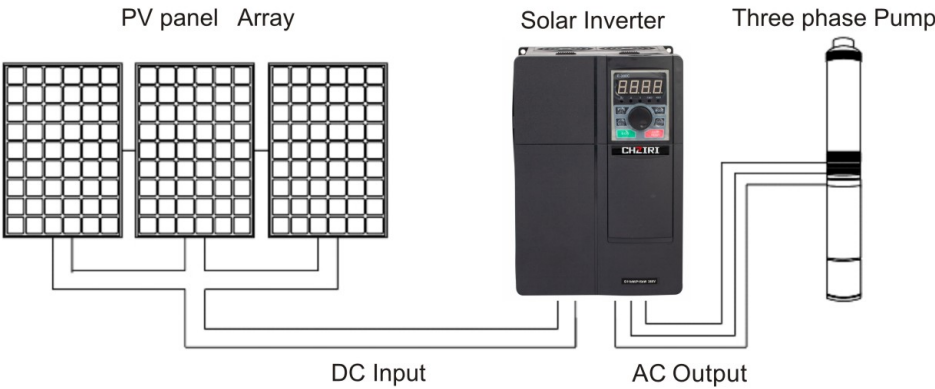
ZSI800 Solar Pumping Inverter System

- 1.Solar pumping system can provide water for remote areas lacking of electricity or places where the electricity supply is unstable.
2. Solar pump Inverter can convert the DC power from solar panels to AC power so to drive various kinds of pumps.
- 3.Solar pumping Inverter System enables continuously pumping when in good weather. System is not equipped with storage battery devices, it is suggested that pumping the water to conservation pool for future use.Water source could come from river, lake,well,or other natural water source or special soucre.
- 4.System enables application of floating switch in the conservation pool or water.

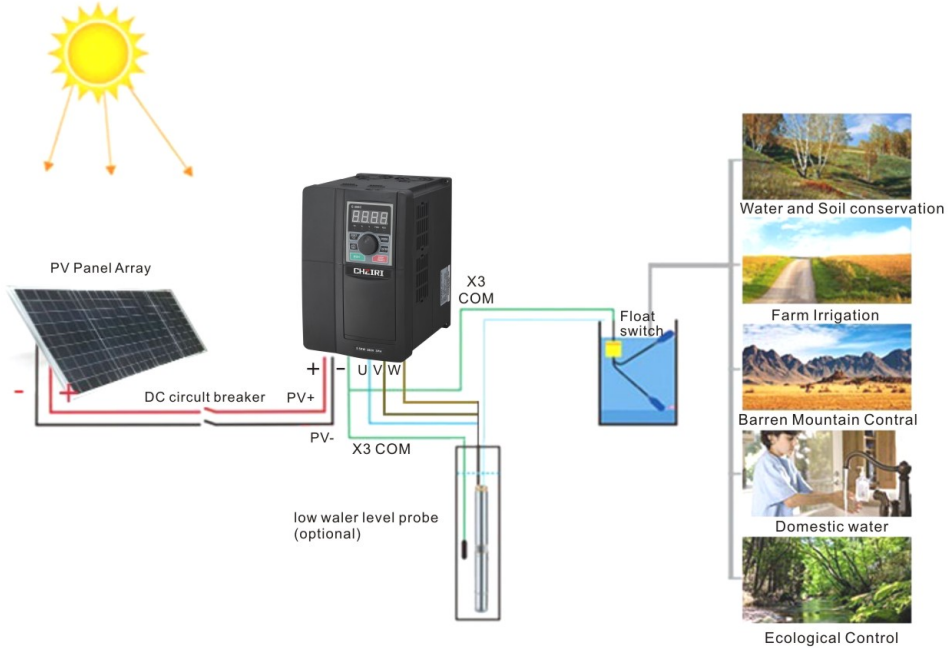
Application Range

Solar pumping systems can be applied to daily use (ground water), agricultural irrigation, forestry irrigation,desert control, pasture animal husbandry, water supply for islands, waste water treatment engineering, and so on.

Solar pumping system is dispensed with energy storing devices, and stores water instead of electricity. It improves the reliability of the device, and at the same time it lowers the construction and maintenance costs of the system dramatically.



Solar Pumping System Diagram



ZVF330 Series Mini Type AC Drive

Main Features

ZVF330 Series Mini Type AC Drive are developed for general applications of small power and OEM market. It applies V/f control technology, making the functions of PID, multiple-speed step, DC braking, Modbus communication, as well as less installation space.ZVF330 Series AC drive is for small automation equipment of economical type, especially suitable for electronic equipment, food packaging, wood, glass and other small power transmission.

- 1. Output frequency :0-600Hz.
- 2. Multiple password protection mode.
- 3. Remote control operation keypad, convenient for remote control.
- 4. V/F curve & multi-inflection point setting, flexible configuration.
- 5. Keyboard parameter copy function. easy to set the parameters for multi-inverters.
- 6. Wide industry application. to expand special function according to different industries.
- 7. Multiple hardware and software protection and optimized hardware for anti-interference technology.
- 8. Multi-step speed and wobble frequency running (external terminal 15 steps speed control).
- 9. Unique adaptive control technology. Auto current limiting and voltage limiting and under-voltage restrain.
- 10. Optimized external installation and internal structure and independent air flue design, fully enclosed electrical space design.
- 11. Output automatic voltage regulation function (AVR),automatically adjust the output pulse width. to eliminate the influence of the grid change on load.
- 12. Built-in PID regulation function to facilitate the realization of closed loop control of the temperature,pressure and flow. and reduce the cost of the control system.
- 13. Standard MODBUS communication protocol. easy to achieve the communication between PLC,IPC and other industrial equipments.

Application Range

Metal processing,digital machine tool,wire drawing bench and other mechanical equipment. paper making equipment,chemistry industry,medicine industryand textile industry,all kinds of fans and pumping load.etc.

Demonstration Of The Model

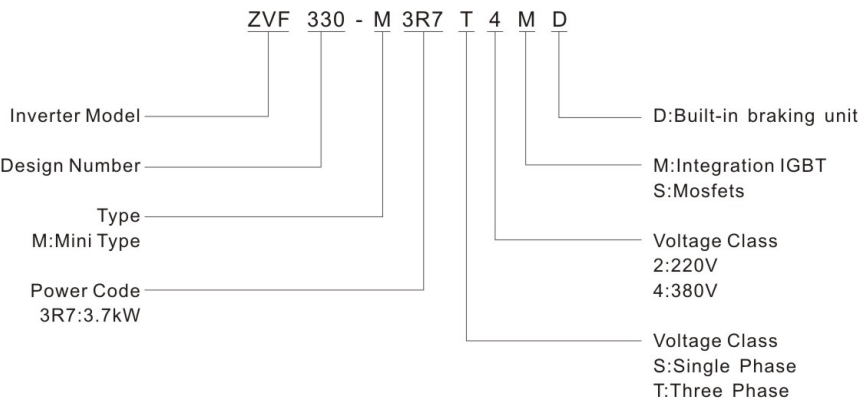


Fig.1



Fig.2

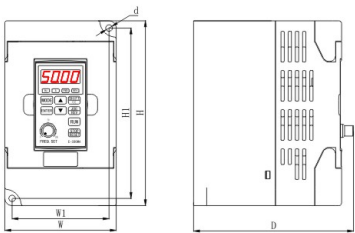


Fig.1

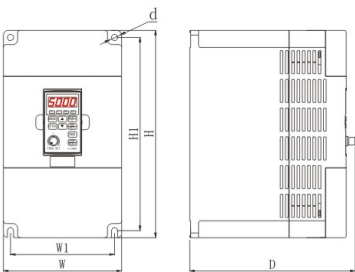


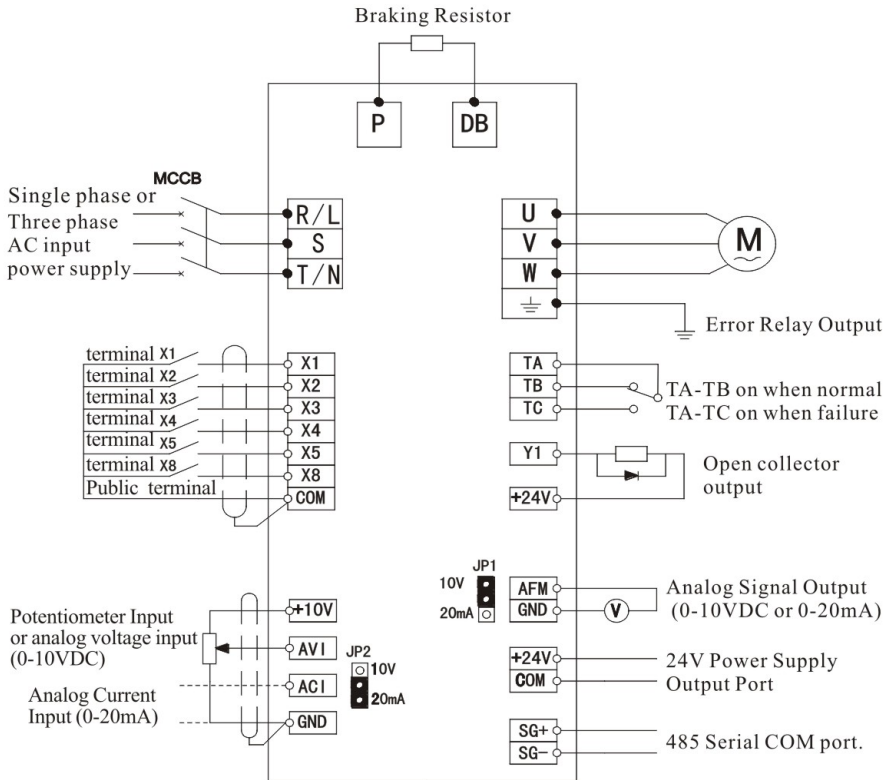
Fig.2

Input Voltage (V)	Output Voltage(V)	Power Range (kW)
Single phase 220V± 20%	Three phase 0~input voltage	0.4kW~2.2kW
Three phase 380V± 20%	Three phase 0~input voltage	0.75kW~7.5kW
Overload Capacity : 150% 1 minute ;180% 1 second ;200% transient protection.		

Inverter Outline& Mounting Dimension (Unit:mm)

Inverter Model	Voltage (V)	Power (kW)	Current (A)	Dimension (mm)						Figure
				H	H1	W	W1	D	d	
ZVF330-M0R4S2MD/T2	220V	0.4	2.4	142	131	85	74	125	Φ5	Fig.1
ZVF330-M0R7S2MD/T2		0.75	4.5	142	131	85	74	125	Φ5	
ZVF330-M1R5S2S/T2		1.5	7.0	151.0	140	100	89.5	129	Φ5	
ZVF330-M2R2S2S/T2		2.2	10	151.0	140	100	89.5	129	Φ5	
ZVF330-M0R7T4SD	380V	0.75	2.5	151.0	140	100	89.5	129	Φ5	Fig.2
ZVF330-M1R5T4SD		1.5	3.7	151.0	140	100	89.5	129	Φ5	
ZVF330-M2R2T4SD		2.2	5.0	151.0	140	100	89.5	129	Φ5	
ZVF330-M3R7T4MD/T2		3.7	9.0	220	205	125	110	176	Φ6.5	
ZVF330-M5R5T4MD/T2		5.5	13	220	205	125	110	176	Φ6.5	
ZVF330-M7R5T4MD		7.5	17	220	205	125	110	176	Φ6.5	

ZVF330 Inverter's Standard Wiring Diagram





ZVF600 Series Pump Inverter

Main Features

ZVF600 series pump control inverter is the company's own research and development of high degree protection pump inverter, the shell is dustproof and splash water, can be installed different brand water pump motor junction box. Adapt to a variety of sensor signals, simple operation, high reliability, low noise, can be individually controlled a pump and can also be more on-line operation.

- 1. High Protection IP54, All-round Anti-corrosion Anti-splash Water.
- 2. High Performance V / F And Vector Control.
- 3. Pump Special Design, Water Shortage Protection, Water Coming Start Automatically.
- 4. Single Pump Constant Pressure, Main And Auxiliary Pump Single-line Networking, Automatic Control.
- 5. Antifreeze, Rust-proof Function, More Humane Protection For Protecting Pump.
- 6. One-button Pressure Setting, Quick Parameter View.
- 7. Dedicated Pump Function And Fault Protection Function.
- 8. Professional Heat-resistant Design, Small Power, Without Fan Can Be More Reliable.
- 9. Directly Installed On The Motor, No Need For The Cabinet, Simple And Convenient To Operate.



Application Range

Constant pump, Fire fighting apparatus, Environmental protection equipment, Environmental engineering, water treatment equipment and etc.

Demonstration Of The Model

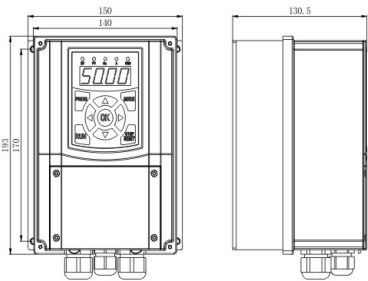
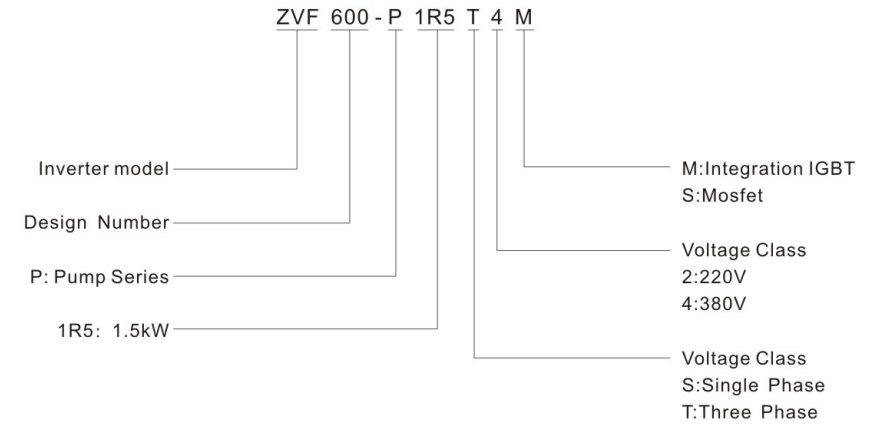


Fig.1

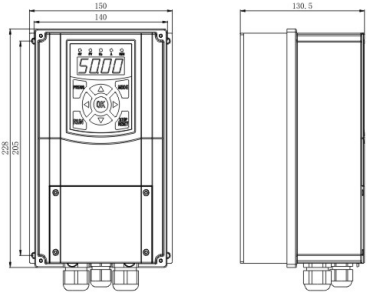


Fig.2

Pump Inverter Outline& Mounting Dimension (Unit:mm)

Inverter Model	Voltage (V)	Power (kW)	Current (A)	Dimension (mm)						Figure
				H	H1	W	W1	D	d	
ZVF600-P0R7S2M	220V	0.75	4.5	193	170	150	140	131	4.5	Fig.1
ZVF600-P1R5S2M		1.5	7.0							
ZVF600-P2R2S2M		2.2	10							
ZVF600-P3R7S2M		3.7	16							
ZVF600-P0R7T4M	380V	0.75	2.5	193	170	150	140	131	4.5	Fig.1
ZVF600-P1R5T4M		1.5	3.7							
ZVF600-P2R2T4M		2.2	5							
ZVF600-P3R0T4M		3	6.8							
ZVF600-P4R0T4M		4	9	228	205	150	140	131	4.5	Fig.2
ZVF600-P5R5T4M		5.5	13							
ZVF600-P7R5T4M		7.5	17							

Master-Slave Pump Control (2-wire 4-20mA sensor)

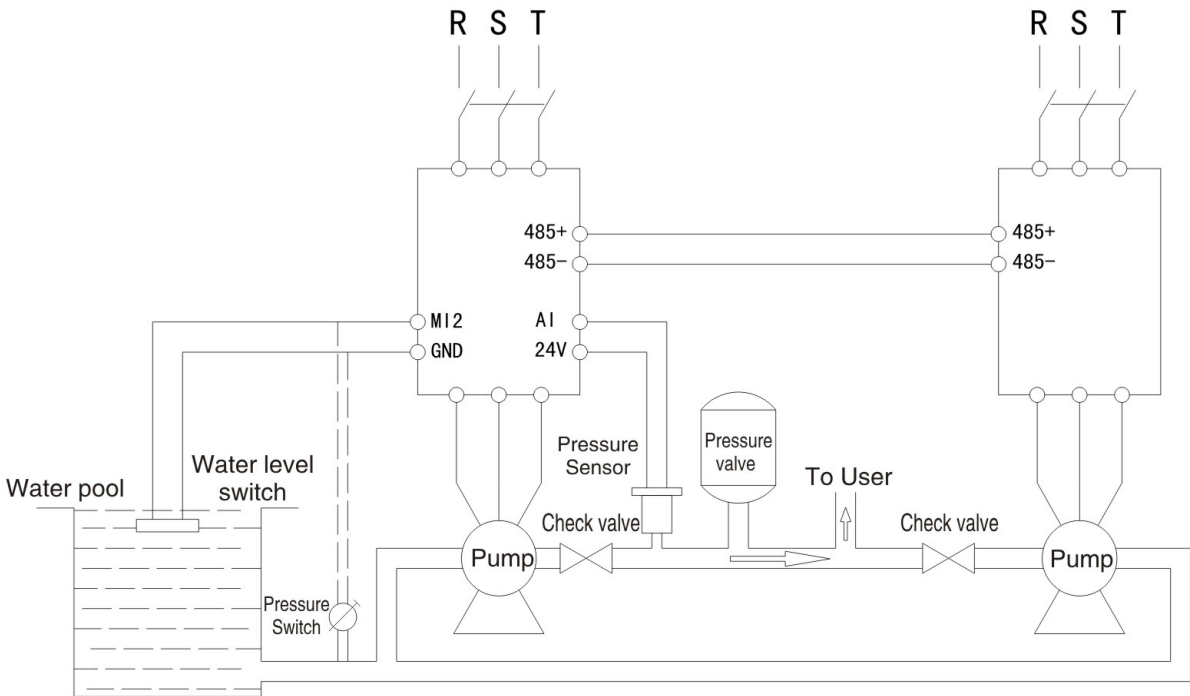




Fig.1



Fig.2

ZVF600-G Series IP54 General Inverter

Main Features

ZVF600-G series IP54 general inverter is the company's own research and development of high degree protection pump inverter, the shell is dustproof and splash water, can be installed different brand water pump motor junction box. Adapt to a variety of sensor signals, simple operation, high reliability, low noise, can be individually controlled a pump and can also be more on-line operation.

- ◆ High protection IP54, all-round anti-corrosion anti-splash water
- ◆ High performance V / F and vector control
- ◆ Professional heat-resistant design, small power, without fan can be more reliable
- ◆ Directly installed on the motor, no need for the cabinet, simple and convenient to operate.
- ◆ The function and software is same as ZVF300H series. can be used for water supply system and general purpose.

Application Range

Water pump industry, all kinds of fans and pumping load, digital machine tool, transfer machine, textile industry, medicine industry, paper making equipment, blower, music fountain. etc.

Demonstration Of The Model

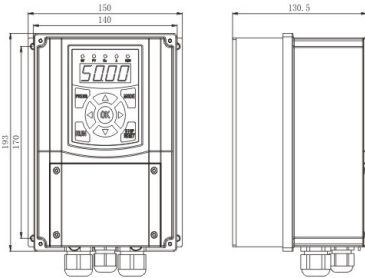
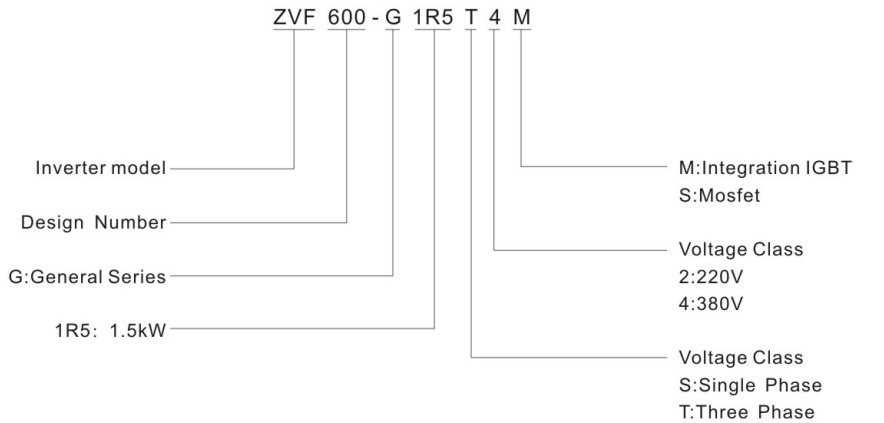


Fig.1

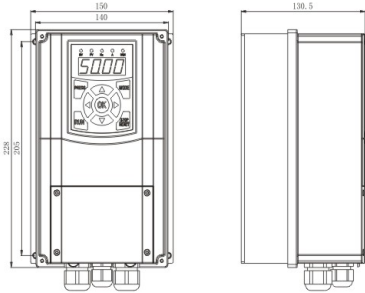
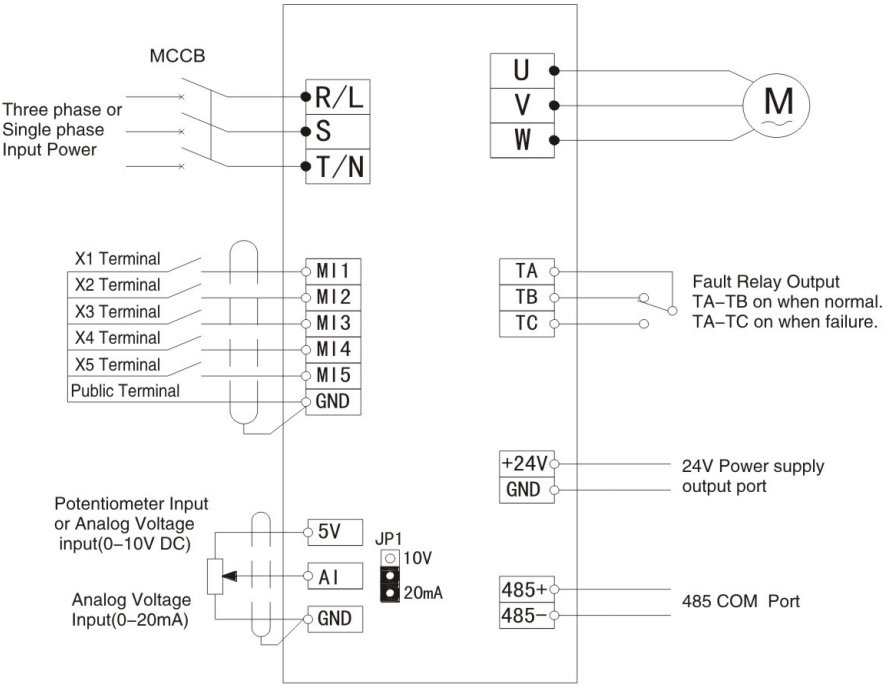


Fig.2

IP54 Inverter Outline& Mounting Dimension(Unit:mm)

Inverter Model	Voltage (V)	Power (kW)	Current (A)	Dimension (mm)						Figure
				H	H1	W	W1	D	d	
ZVF600-G0R7S2M	220V	0.75	4.5	193	170	150	140	131	4.5	Fig.1
ZVF600-G1R5S2M		1.5	7.0							
ZVF600-G2R2S2M		2.2	10							
ZVF600-G3R7S2M		3.7	16							
ZVF600-G0R7T4M	380V	0.75	2.5	193	170	150	140	131	4.5	Fig.1
ZVF600-G1R5T4M		1.5	3.7							
ZVF600-G2R2T4M		2.2	5.0							
ZVF600-G3R0T4M		3	6.8							
ZVF600-G4R0T4M		4	9.0	228	205	150	140	131	4.5	Fig.2
ZVF600-G5R5T4M		5.5	13							
ZVF600-G7R5T4M		7.5	17							

ZVF600-G IP54 Inverter Wiring Diagram



Technical Indications

Item		Item Description
Input	Rated voltage& Frequency	Single /Three phase 220VAC. Three phase 380V.50Hz/60Hz
	Allowable Voltage range	Voltage fluctuate range: -20%~+20% Voltage unbalance rate: <3%;Frequency fluctuation: ≤5%
Output	Rated voltage	Three phase 0~ input AC voltage
	Frequency	0.00~600.00Hz
Basic Function	Frequency accuracy	Digital setting: Max. Frequency × ±0.01% Analog setting: Max. Frequency × ±0.2%
	Frequency resolution	Digital setting :0.01HZ; Analog setting :Max. Frequency x0.1%.
	Starting frequency	0.00~10.00Hz
	Acceleration/deceleration time	0.1~3600 can be set in sequence.
	Carrier frequency	1.0~15.0KHz
	V/F curve	1: linear curve; 2: quadratic; 3: user defined V/F curve.
	Automatic energy-saving operationAutomatic energy -saving operation	Auto optimize V/F curve according to the load changes to realize the energy saving operation.
	Built-in PID	This can form a convenient closed-loop control system (CLCS)and is applicable to pressure control, flow control and other process control .
	Operating command	Operation panel control,external terminal control and COM control
	Frequency setting	Keypad potentiometer setting, operation panel ▲▼setting, analog voltage signal or external potentiometer setting, analog current signal setting.terminal combination setting,485 COM setting and so on.
	Input Signal	Forward/Reverse signal、multi-speed signal、fault signal、reset signal etc
	Output signal	Programmable relay
	Other Function	Over voltage alarm、Rotation speed tracking、Momentary power loss restart、Frequency upper/ lower limiting、Acceleration/ Deceleration mode can be adjusted、Multi-speed/ program running、Fault auto reset、RS485 serial communication.
Ambient	Protection Function	Input phase loss protection、Over current protection、Overload protection、Over voltage protection、Under voltage protection、Over heat protection etc.
	LED Display	Can display the real time running status of the inverter, monitor parameter.function parameter and fault code and other information of the inverter.
	Place to be used	Indoor location free from direct exposure to sun light, high humidity or dew condensation, high levels of dust, corrosive gas, explosive gas, inflammable gas, oil mist, salt and etc
	Altitude	Below 1000 M
	Ambient Temperature	-10 ℃ to +45 ℃ (Bare Machine: -10 ℃ to+50 ℃)
	Humidity	20%-90% RH without dew condensation
	Vibration	<0.5G
	Storage temperature	-20~+60℃

ZJR2 Series
Motor Soft Starter

ZJR2 Series motor soft starter is suitable for three phase AC squirrel cage induction asynchronous motor,the voltage is 320V~460V.50(60)Hz.The rated current is 1200A and below.The soft starter is assembled type,need to add breakers (short.circuit protection)and AC contactor (Bypass) inside the cabinet,together with switches are made up of electric motor control circuit. It's no need to install the thermal relay,there have perfect motor protection function while the motor start and running,adapt closed-loop control,improve the stationarity and reliability of the motor 's soft torque start and soft torque stop.Use By-pass contactor when running. The running power is almost zero. It can improve the reliability of the soft starter and reduce the overall size.



ZJR2 Series Soft Starter

Main Features

ZJR2 series soft starter can work with three-phase, AC squirrel cage induction asynchronous motor, The voltage is 320V~460V, 50Hz/60Hz and the current is 1200A and below. The soft starter is a device type. It's necessary to add breakers (short-circuit protection) and AC contactor (Bypass) inside the cabinet. together with switches are made up of electric motor control circuit.

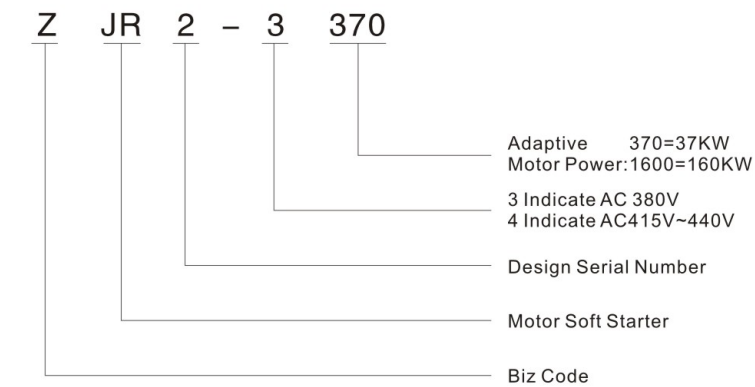
ZJR2 device type can work without three-phase AC motor in the process of starting too big acceleration torque, and power supply system plays a protection from excessive current harvest dynamic impact role, and has the following characteristics:

- 1. 16 SCM control, intelligent all-digital display.
- 2. Can be put into practice a soft starter control multiple motors.
- 3. Starting modes: Current limiting starter, Voltage ramp start, Kick start + current-limiting start, Kick start+voltage ramp start, Current ramp start, Voltage current-limiting double closed-loop start.
- 4. Free stop and soft stop, The stop time from 0 to 60 seconds can be arbitrary choosed.
- 5. Over current, Overload, Open phase, instantaneous stop and other fault protection, with the flow, lack phase, instantaneous stop, and other malfunction protection.
- 6. Easy installation, simple operation, strong function and reasonable price.
- 7. 5.5kW-55kW soft starter also have built-in bypass contactor. But the factory default is not with built-in bypass contactor. Clients need to confirm this once order confirmed.

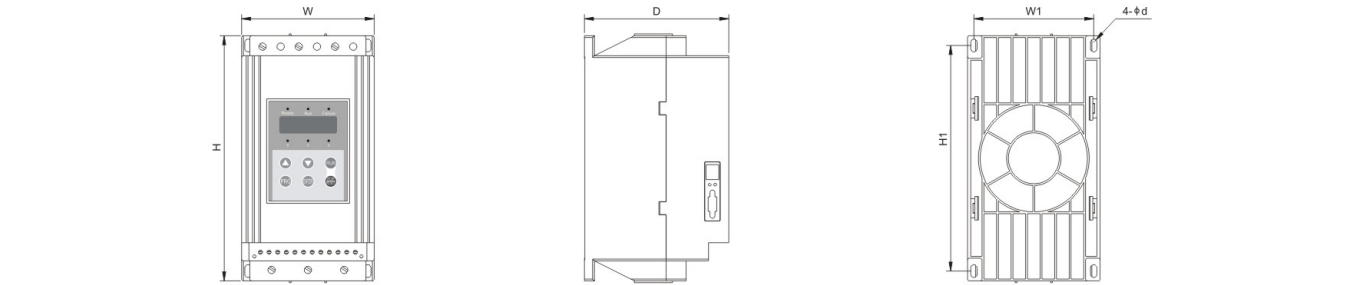
Application Range

ZJR2 Soft starter can meet the requirements of following loads: Centrifugal pump, bill grinder, fan, piston compressor, light load motor, hoist machinery, mixer, crusher screw compressor, screw conveyor belt, belt conveyor and heat pump and so on.

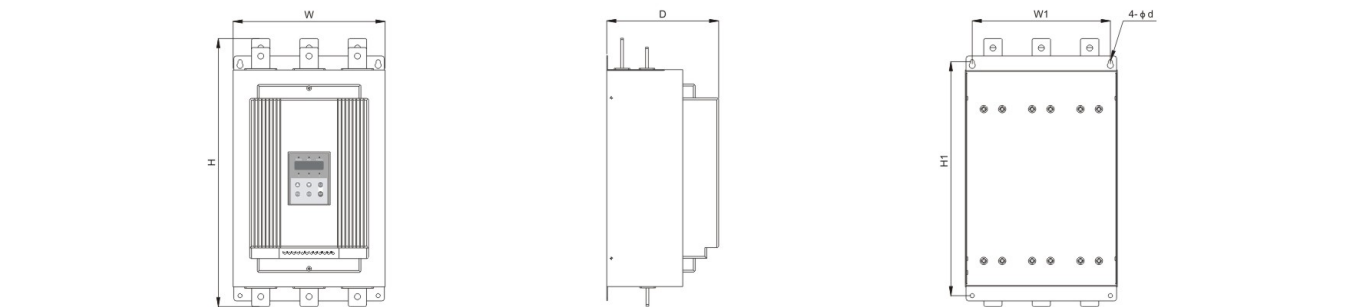
Demonstration of the Model



Soft Starter Outline & Mounting Dimension(Unit:mm)



Model	Rated Power (KW)	Rated Current (A)	Outline Size(mm)			Install Size(mm)			Net Weight (KG)
			H	W	D	H1	W1	d	
ZJR2-3055/4055	5.5	11	270	145	159	245	130	7	<3.5
ZJR2-3075/4075	7.5	15	270	145	159	245	130	7	<3.5
ZJR2-3110/4110	11	23	270	145	159	245	130	7	<3.5
ZJR2-3150/4150	15	30	270	145	159	245	130	7	<3.5
ZJR2-3185/4185	18.5	37	270	145	159	245	130	7	<3.5
ZJR2-3220/4220	22	44	270	145	159	245	130	7	<3.5
ZJR2-3300/4300	30	60	270	145	159	245	130	7	<3.5
ZJR2-3370/4370	37	75	270	145	159	245	130	7	<3.5
ZJR2-3450/4450	45	90	270	145	159	245	130	7	<3.5
ZJR2-3550/4550	55	110	270	145	159	245	130	7	<3.5

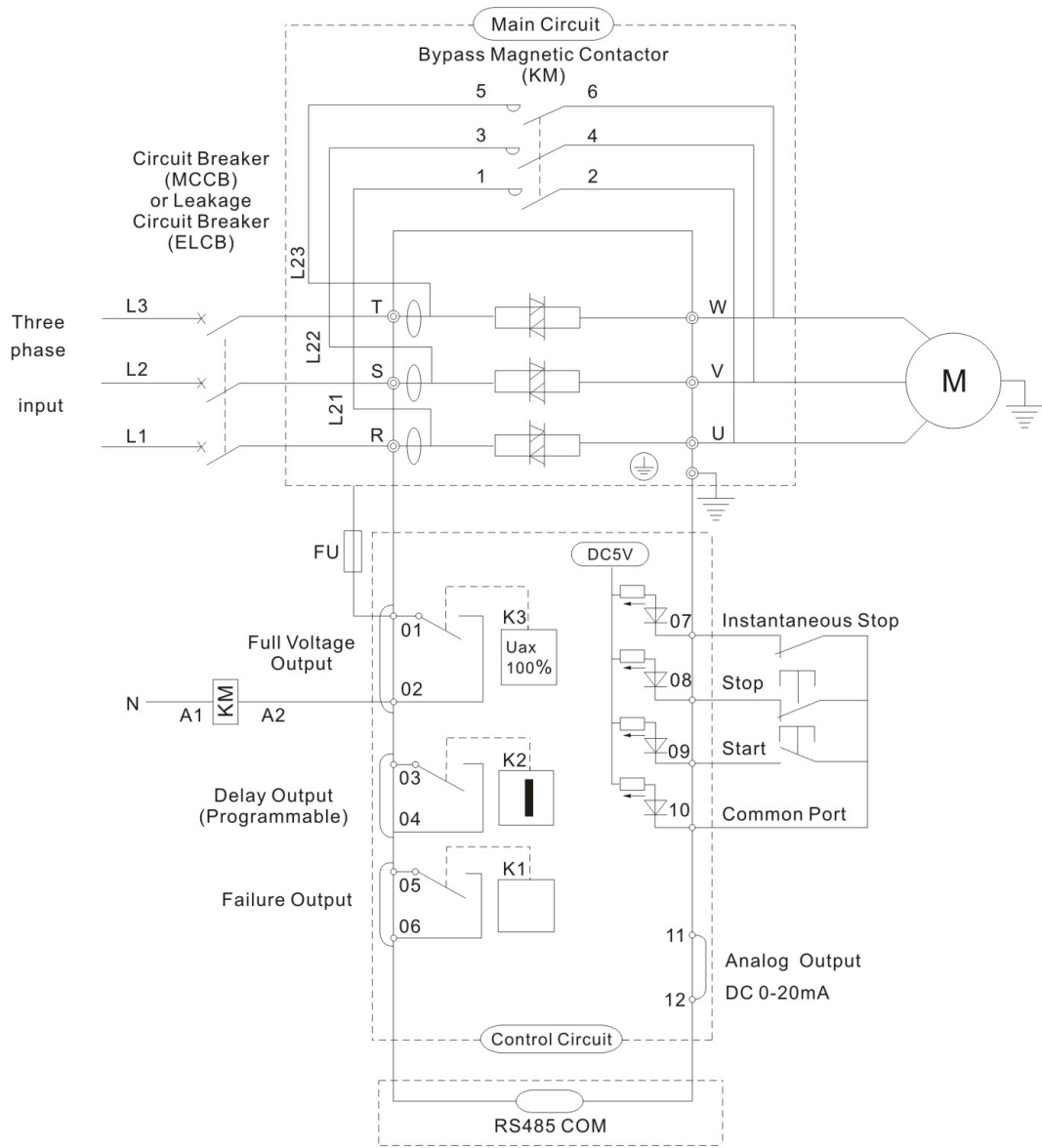


Model	Rated Power (KW)	Rated Current (A)	Outline Size(mm)			Install Size(mm)			Net Weight (KG)
			H	W	D	H1	W1	d	
ZJR2-3750/4750	75	150	530	260	202	380	235	10	<25
ZJR2-3900/4900	90	180	530	260	202	380	235	10	<25
ZJR2-31150/41150	115	230	530	260	202	380	235	10	<25
ZJR2-31320/41320	132	264	530	260	202	380	235	10	<25
ZJR2-31600/41600	160	320	530	260	202	380	235	10	<25
ZJR2-32000/42000	200	400	530	260	202	380	235	10	<25
ZJR2-32500/42500	250	500	560	290	245	460	260	10	<35
ZJR2-32800/42800	280	560	560	290	245	460	260	10	<35
ZJR2-33200/43200	320	640	560	290	245	460	260	10	<35
ZJR2-34000/44000	400	800	600	330	245	500	300	10	<40
ZJR2-34500/44500	450	900	600	330	245	500	300	10	<40
ZJR2-35000/45000	500	1000	760	406	260	540	370	10	<45
ZJR2-36000/46000	600	1200	760	406	260	540	370	10	<45

Technical Indications

Item		Item Description
Input Power Supply	Input Voltage	Three phase 320V~ 460VAC
	Frequency	50/60Hz
Adaptive Motor		Squirrel-cage three phase asynchronous motor.
Starting Times		It is recommended not to exceed 20 times per hour.
Control Mode		1. Operation panel control. 2. Operation panel + external control. 3. External control. 4. External control + COM control. 5. Operation panel + external + COM control. 6. Operation panel + COM control. 7. COM control. 8. No start or stop operation.
Start Mode		1. Current-limiting start. 2. Voltage ramp start. 3. Kick start + current-limiting start. 4. Kick start + voltage ramp start. 5. Current ramp start. 6. Voltage current-limiting double closed-loop start.
Stop Mode		1. Soft stop. 2. Free stop.
Protection Function		1. Open loop protection for external instantaneous stop terminals. 2. Over-heat protection for soft starter. 3. Protection for too long starting time. 4. Input open phase protection. 5. Output open phase protection. 6. Unbalanced three-phase protection. 7. Starting over current protection. 8. Running overload protection. 9. Under voltage protection for power voltage. 10. Over voltage protection for power voltage. 11. Protection for fault parameter setting. 12. Load short circuit protection. 13. Auto restart or incorrect wiring protection. 14. Incorrect wiring protection of external control stop terminals.
Ambient	Place to be used	Indoor location with good ventilation free from corrosive gas and conductive dust.
	Altitude	Below 3000M. It have to rise the rate power when the altitude is more than 3000M.
	Ambient Temperature	-30℃~+55℃
	Ambient Humidity	≤90%RH without dew condensation.
	Vibration	<0.5G
Structure	Protection Class	IP20
	Cooling Pattern	Natural wind cooling.

ZJR2 Series Soft Starter Wiring Diagram



ZJR2-B Series Soft Starter with Built-in Contactor



ZJR2-B series soft starter with built-in contactor can work with three-phase.AC squirrel cage induction asynchronous motor.The voltage is 320V-460V,50HZ/60HZ.Power range from 5.5-55kW.

ZJR2 series soft starter with built-in contactor are in the process of motor starting and running a perfect protection function,adopted the closed loop control,greatly improving the stationarity of soft starting torque of the motor.

There have 3 relays inside the soft starter.No need to add external contactor. You have to inform the factory that you need built-in contactor soft starter.Because the factory standard soft starter is economic type.

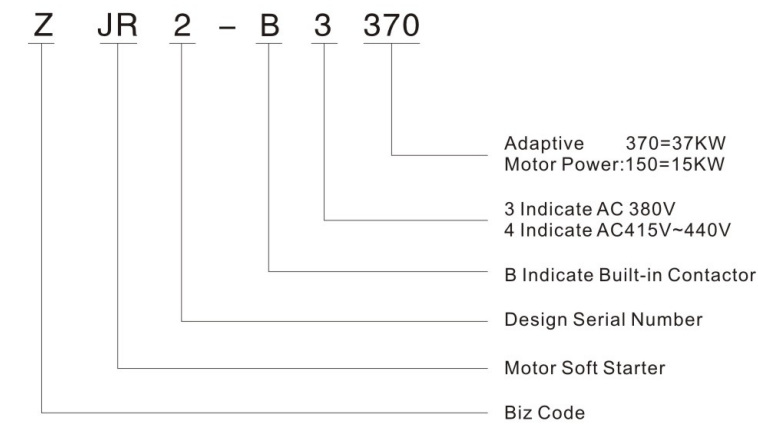
ZJR2-B device type can work with three-phase AC motor in the process of starting too big acceleration torque,and power supply system plays a protection from excessive current harvest dynamic impact role,has the following characteristics:

- 1.16 SCM control,inelligent II-digital display.
- 2.Can be put into practice a soft starter control multiple motors.
- 3.Starting modes:Current limiting starter,Voltage ramp start,Kick start +current-limiting start,kick start +voltage ramp start,Current ramp start,Voltage current-limiting double closed -loop Start.
- 4.Free stop and soft stop,The stop time from 0 to 60 seconds can be arbitrary selected.
- 5.Over current,overload,open phase,instantaneous stop and other fault protection.with the flow,over loading,lack phase,instantaneous stop,and other malfunction protection.
- 6.Easy installation,simple operation,strong function and reasonable prices.

Application Range

ZJR2-B series soft starter motor applies to centrifuges, blower, compressor, transport planes, mixer, rolling ball mill broken machines and mechanical equipment motor starter.

Demonstration of the Model

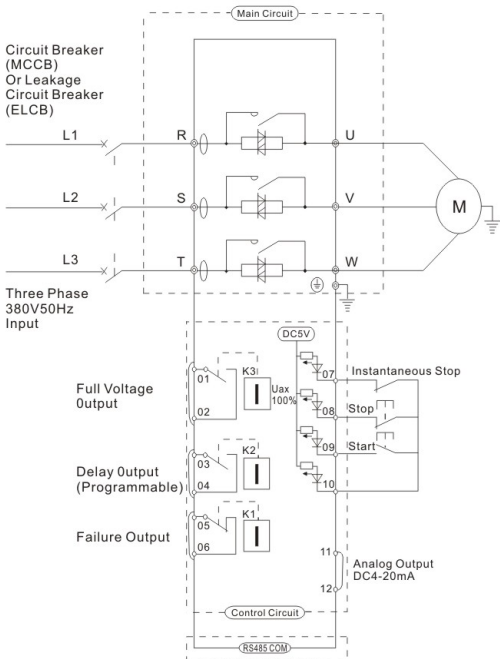


ZJR2-B Soft Starter Outline&Mounting Dimension(Unit: mm)

Inverter Model	Rated Power (KW)	Rated Current (A)	Dimension (mm)					
			H	W	D	H1	W1	d
ZJR2-B3055/B4055	5.5	11	270	145	159	245	130	7
ZJR2-B3075/B4075	7.5	15	270	145	159	245	130	7
ZJR2-B3110/B4110	11	22	270	145	159	245	130	7
ZJR2-B3150/B4150	15	30	270	145	159	245	130	7
ZJR2-B3185/B4185	18.5	37	270	145	159	245	130	7
ZJR2-B3220/B4220	22	44	270	145	159	245	130	7
ZJR2-B3300/B4300	30	60	270	145	159	245	130	7
ZJR2-B3370/B4370	37	75	270	145	159	245	130	7
ZJR2-B3450/B4450	45	90	270	145	159	245	130	7
ZJR2-B3550/B4550	55	110	270	145	159	245	130	7

Note: The standard soft starter don't have RS485 Port.Please inform us once you need the soft starter with RS485 Port when you place the order.

ZJR2-B Series Soft Starter Wiring Diagram



Control Panel

CHZIRI Electrical are experience and professional automation control solution provider. CHZIRI Electrical can design different inverter control cabinet, soft starter panel and MCC panel according to clients' wiring diagram.



Switchgear (Control Panel)

Inverter Control Cabinet

Main Features

With the frequency technology become more and more mature, the use of frequency inverter, PLC, digital-analog conversion module, temperature sensor, temperature module and other devices combine to form a closed-loop automatic temperature control system, the system can work smoothly and more stable, More important Its energy-saving reach to as much as 30% or more, can bring good economic benefits.

The frequency inverter control panel adopts the enclosed cabinet structure, adopts the frame skeleton, the surface coating spray, and easy to install the cabinet, the upper end can configure the bus bar, the keypad of frequency inverter leads to the front foot of cabinet and can operate directly, it can set local and remote control or PC/PLC communication control. the inverter control cabinet can display different kinds of function.

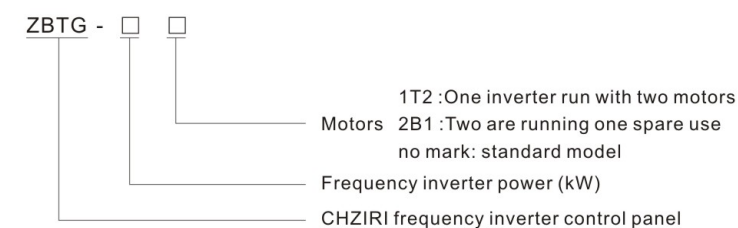
Frequency inverter is a dedicated accessory of inverter cabinet, the variable frequency control the speed and the main technical parameters depends on the specification of built-in inverter and external configuration. Inverter cabinet have big difference according to the use of different application and different functions.

According to the needs of the operating conditions, we can install AC input reactor, output reactor, DC reactor, EMI filter, braking unit, braking resistor, contactor, intermediate relay, thermal relay, PLC, GOT, Electricity meter, cooling fan and ect inside the control cabinet.

According to the system working conditions, we can set a variety of control button and indicators. Such as forward, reverse, motor speed boost, motor speed deceleration, jog forward, jog reverse, manual / automatic, emergency stop, frequency conversion, power frequency, PLC control, touch screen and so on in the front door of the panels.



Model Description



Using Condition

- Power Supply: Electric supply, self-connected power network, diesel generator set, 3phase AC 380V, (10%, +15%), 50HZ
- Applicable motor: three-phase asynchronous motor, variable frequency motor
- Start frequency: can start frequently
- Protection class: IP41 or IP20

Environment Condition

- Altitude ≤ 2km (used and downgraded if altitude beyond of 2km),
- Environment temperature : -25℃ ~ +40℃
- Relative humidity: ≤90%, no condensation
- Vibration: ≤0.5G

Applicable Industry

The frequency converter control panel (VFD electric control panel / electrical control panel) can widely use in metallurgy, chemical industry, petroleum, Pump, mine, building material, electrical motor industry, such as pumps, fans, air compressor, rolling mill, injection molding machine, conveyer belt and other machinery and equipments.

Inverter Control Panel Function

- 1.The power switch and protection frequency inverter cabinet l are equipped with low-voltage MCCB which is connected to the power line, in addition to complete and disconnect the circuit, can protect the circuit and VFD short circuit and overload protection. can cut off the power during maintenance.
- 2.Start and Control function. on the front door of the panel set the inverter start pushbutton.inverter stop pushbutton for the inverter operation control. easy for on-site operation.
- 3.Frequency (speed) adjustment :
Adjust the setting frequency and potentiometer on the front panel, It can easily and convenient to adjust the output frequency of the VFD manually. to control the motor speed.
- 4.Meters display on the front door of the panel. install the voltmeter、Ammeter、frequency meter and different kinds of indicators.Such as power indication、alarm indication、running indication、working frequency、inverter input voltage、inverter output current、inverter output frequency and monitoring of different working status.
- 5.Spare working frequency switching. the user can select the inverter cabinet with spare use working frequency switch. when the inverter get failure. can make the motor switch to working frequency power supply according to the automatic control circuit.(you can select manual /automatic mode, When the working frequency start device is more than 15kW. you can use soft starter to realize this function).
- 6.A variety of control function. According to the system working.it can set a variety of control buttons and indicators on the front door of the panel. such as Forward、Reverse、Motor increase the speed、motor reduce the speed、Jog forward、Jog reverse、manual/automatic、Emergency stop、variable frequency/working frequency、PLC control、Touch screen.
- 7.According to the needs of the operating conditions, we can install AC input reactor, output reactor, DC reactor, EMI filter, braking unit, breaking resistor, contactor, intermediate relay, thermal relay, PLC, HMI, Electricity meter, cooling fan and ect inside the control cabinet.
- 8.Safety protection.Install the VFD in the frequency control panel, can reduce environmental pollution, reduce the risk of electric shock, will have better protective effect.
- 9.Neat and beautiful appearance. install the VFD in the frequency control panel, have the same size with other low -voltage switchgear.the same color,to maintain the power distribution facilities and control equipment coordination, neat, beautiful.

Characteristics Analysis

- 1.Save energy
Inverter control motor compared with the traditional control of the motor, energy conservation is the most practical significance, you can achieve energy-saving effect.
- 2.Lower operating cost.
The traditional motor are consists of three parts: initial purchase cost, maintenance cost, and energy cost. The Energy costs account for about 77% of the motor's operating costs. After install the frequency and soft starter start to reduce the impact of the device. The energy costs can be reduced by 44.3%.The maintenance and repair volume also reduced. So the operating costs will be greatly reduced.
- 3.Extend motor's life
In addition, the frequency conversion control can reduce the unit start when the current fluctuation, this fluctuation current will affect the power grid and other equipment, the inverter can effectively reduce the peak starting current to a minimum. Starting from 0HZ, the start-up time can be adjusted to reduce the impact on the electrical components and mechanical parts of the motor at start-up, thus enhancing the reliability of the system and prolonging the service life of the motor. In addition, the frequency conversion control can reduce the unit start when the current fluctuation, this fluctuation current will affect the power grid and other equipment, the inverter can effectively reduce the peak starting current to a minimum.
- 4.Reduce motor's noise
According to the requirements of the motor operating conditions, the installation of frequency inverter, the motor speed significantly slowed down, so effectively reduce the noise of the motor running.



MCC Panel

Main Features

- The MCC Panels are installed in a sewage treatment plant.
- There have plant C & D each with 8× Aerators, 2× Mixers and 2× Stirers. C & Dshare the same panel.
- The dimensions of the panel are L8000×H2000×W600

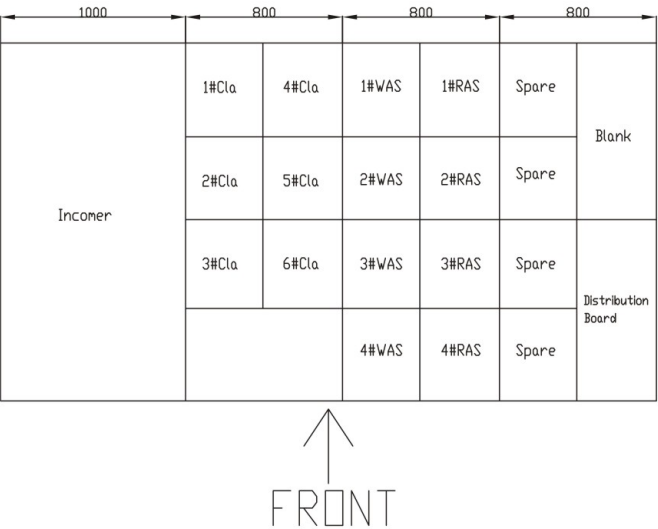
The Doors Should Be Mounted With

- Running/trip Lights
- Emergency Stop Button
- Start/stop Buttons
- Local/remote Selector Switch
- Ammeters
- Voltmeter
- Running Hour Meters
- Panel Fans

Below Are The Circuits

- 16× 55kW motors with VSDs
 - 4× 7.5kW motors with VSDs
 - 4× 5kW motors with VSDs
 - Incomer with a 2000A circuit breaker and a 2400A isolator
 - Panel with two circuit breakers for C and D (splitting the two sections of the plant)
 - RAS/WAS Isolator
 - Distribution board
- All the circuits have the same control philosophy. We just want to beable to start and stop the motors both from remote and local.We havealso attached the control philosophy of the 3 circuits.

MCC Panel Layout



	Panel Number	D01	D02						D03								D04																																																																																																																																																										
	Measurement meters:	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖	⊕⊖																																																																																																																																																								
	Batter TMY-40XS Switchgear(HKXWD)																																																																																																																																																																										

Panel Number	01		02		03		04		05		06		07		08		09		10		11		12		13	
Measured	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	000	
Busbar, W-Axis																										
Primary Wiring Diagram																										
PC code Standard to-wire	0000000000		0000000000		0000000000		0000000000		0000000000		0000000000		0000000000		0000000000		0000000000		0000000000		0000000000		0000000000		0000000000	
Equipment Use	AUTOMATOR #1 #6		AUTOMATOR #2 #7		AUTOMATOR #3 #8		AUTOMATOR #4 Motor #1 #2		AUTOMATOR #5 Slave #1 #2		Distribution Board		BOMMER		DAS/MSA Feeder		AUTOMATOR #1 #6		AUTOMATOR #2 #7		AUTOMATOR #3 #8		AUTOMATOR #4 Motor #1 #2		AUTOMATOR #5 Slave #1 #2	
Circuit Breakers	MAB-250/160/2A		MAB-250/160/2A		MAB-250/160/2A		MAB-250/160/2A		MAB-250/160/2A		MAB-250/160/2A		MAB-250/27/2A 2000A		MAB-250/160/2A		MAB-250/160/2A		MAB-250/160/2A		MAB-250/160/2A		MAB-250/160/2A		MAB-250/160/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
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Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
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Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
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Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
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Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A		150/2A	
Wiring	150/2A		150/2A		150/2A		150/2A		150/2A																	

Aerator 1# C	Aerator 2# C	Aerator 3# C	Aerator 4# C	Aerator 5# C	Distribution Board	Incomer	Isolator RAS C/B 630A 800A 630A	Aerator 1# D	Aerator 2# D	Aerator 3# D	Aerator 4# D	Aerator 5# D
Aerator 6# C	Aerator 7# C	Aerator 8# C	Mixer 1# C	Stirrer 1# C			2400A		Aerator 6# D	Aerator 7# D	Aerator 8# D	Mixer 1# D
			Mixer 1# C	Stirrer 1# C			2000A				Mixer 1# D	Stirrer 1# D

Main Features

ZJRG series soft starter control panel is suitable for three-phase AC squirrel cage induction motors. The control panel is mainly composed of a soft starter, AC contactor (bypass) and circuit breaker (short circuit protection). Have the function of protecting the motor improvement in motor starting and running process; adopt closed-loop control, greatly improving the stability and reliability of soft torque start and soft torque stop, run by the bypass contactor, the power consumption is close to zero.

ZJRG -

1T2 : One soft start run with two motors
Motors 2B1 : Two running one spare
No mark: Standard type
Control Power(kW)
CHZIRI soft starter cabinet

- Power voltage three-phase phase 380V±15%, frequency :50/60HZ.
- Start times: less than 20 times per hour.
- Altitude: less than 3km, if beyond 3km, shall improve power.
- Environment temperature: -30~+55 C.
- Environment humidity: less than 90%, No dew condensation phenomenon.
- Application: no corrosive gas, no Conductive dust, good ventilation condition.
- Protect class: IP20、IP30.

- Starting time can be preset, set different starting time according to different load types.
- Initial voltage can be preset, different initial voltage is set according to different load type.
- With current limiting function, the starting current does not exceed the setting current value.
- Stop mode have soft stop and free stop.
- Bypass contactor function, starting complete, can be connected to bypass contactor.
- One soft starter run multiple motors, One soft starter can start multiple motors in turn.
- Have 14 kinds of protection functions.

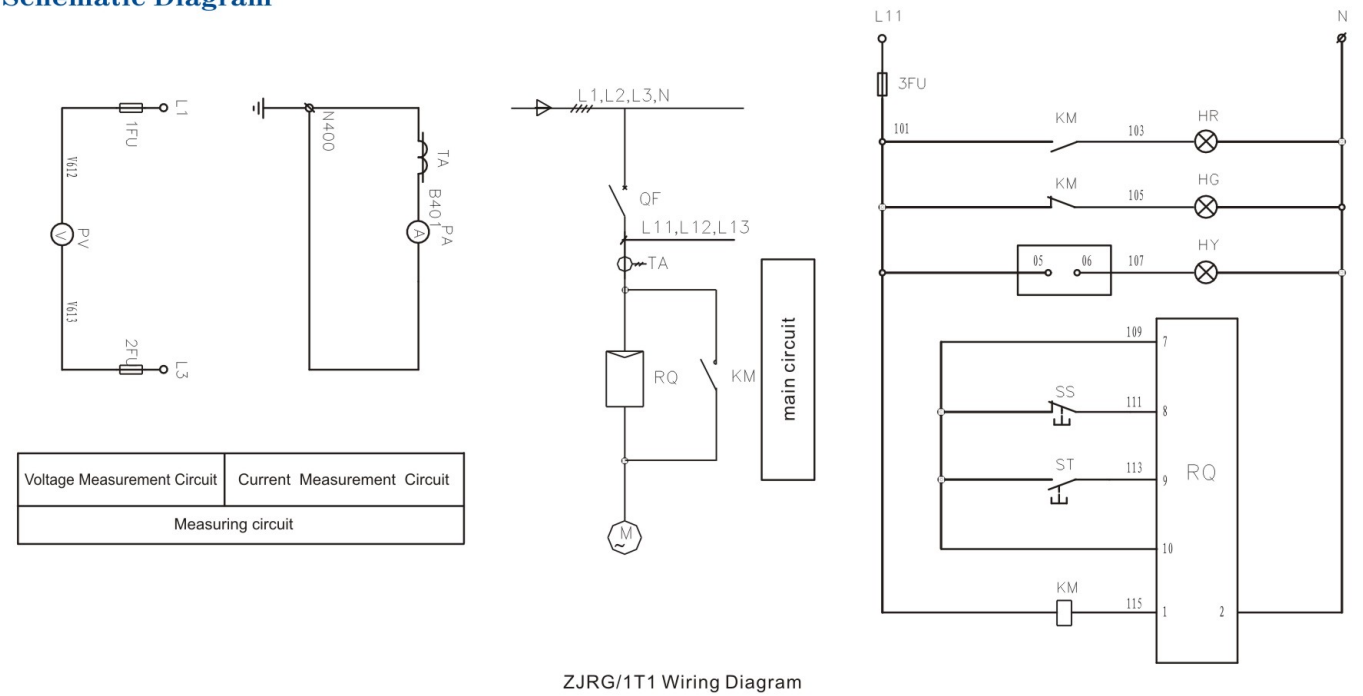


Application Load Type

This soft starter cabinet can meet the requirement of most heavy load. The table below is just for reference only.

Varieties of Application Loads	Stop Ramp Time (S)	Stop Ramp Time (S)	Inception Voltage (%)	Voltage Start (Maximum Current-limiting Value)	Current-limiting Start
Centrifugal Pump	16	20	40	4	2.5
Ball Grinder	20	6	60	4	3.5
Fan	26	4	30	4	3.5
Piston Type Compressor	16	4	40	4	3
Light Load Motor	16	2	30	4	3
Elevating Mechanism	6	10	60	4	3.5
Mixer	16	2	50	4	3
Crusher	16	10	50	4	3.5
Screw Compressor	16	2	40	4	3
Spiral Conveyor	20	10	40	4	2
Leather Belt Conveyer	20	10	40	4	2.5
Heat Pump	16	20	40	4	3

Schematic Diagram



Order Information

Soft starter cabinet have many specification, different high technical request. Please make sure you have a detailed understanding of how the equipment load works and performance indicators, and select the electrical control cabinet features before ordering.

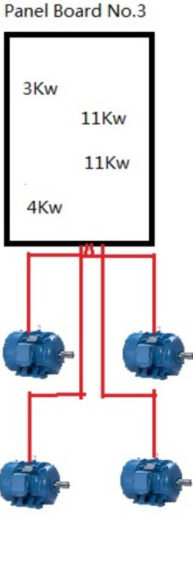
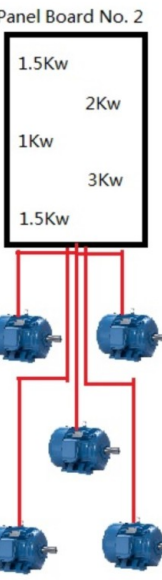
CHZIRI Electrial will offer the clients standard design if no requirements marked. So please specify in the contract if you have special requirements.

DOL Starter Panel

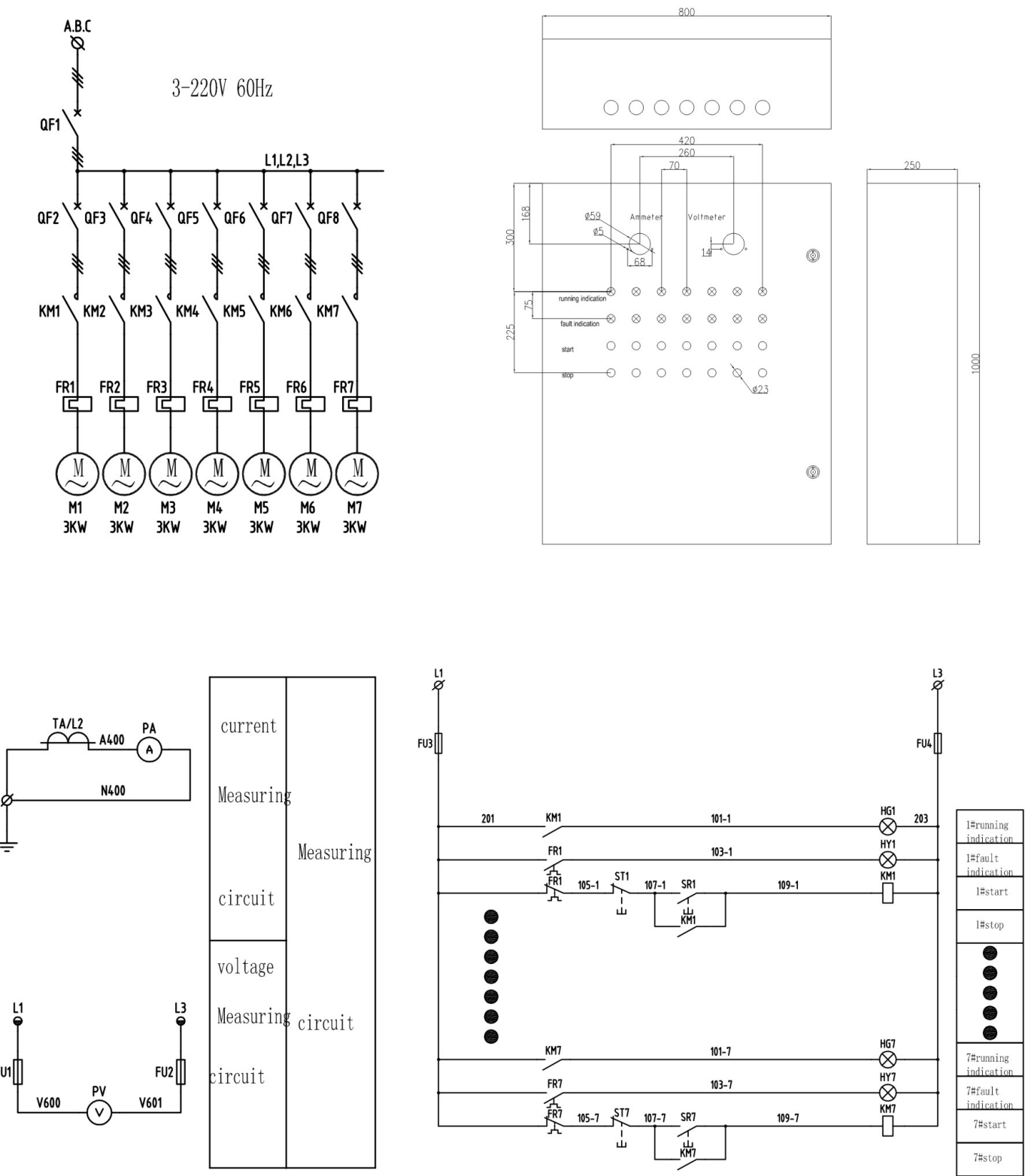
Main Features

CHZIRI Electrical is a leading manufacturer for automation control system since 2003 in China. We can offer complete automation control solutions for our clients. Many year experience and professional help us to win the great supports and trust from many clients. We can customize design different control panels for you. Welcome to send inquiry to us !

Example: Starter for electric motors are 220V 60Hz, Each set have panel board with main breakers.



DOL Starter Panel Primary Wiring Diagram



Intelligent Pump Controller

Intelligent pump controller are designed for pump system. pump controller can make the pump system run steadily and reliably, and realize a true automatic cycle pump and variable frequency operation.



Constant Pressure Pump Controller

Main Features



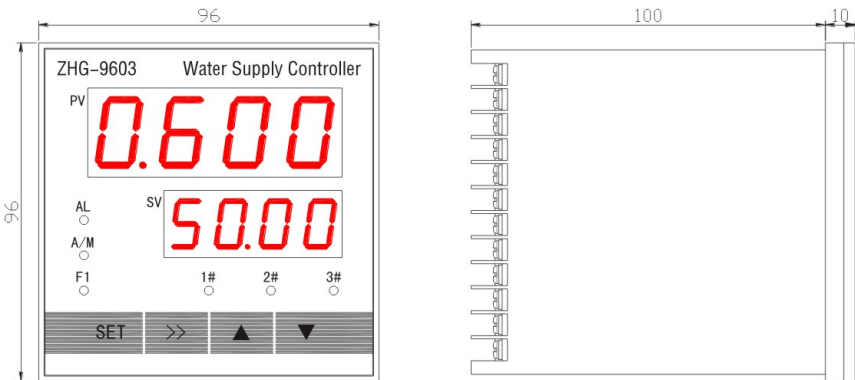
ZHG-9603 Series Constant Pressure Pump Controller is specialized for constant pressure Pump pump variable frequency controller. The constant pressure Pump controller can make the Pump system run steadily and reliably, and realize a true automatic cycle pump and variable frequency operation. to ensure the optimal running efficiency of each water pump and the stable operation of the equipment start smoothly.Eliminates high-current shocks and lowers the pump's average speed, extending pump life and eliminating water hammer during start-up and shutdown.

- 1. Include 3 units main pumps & one unit small pump, it has multiple controlling mode and meets all kinds of complex requests of Pump.
- 2. Timing change pump function, balance all kinds of pumps' working time. improve the average life of the pumps.
- 3. Up to 8 periods pressure control, and each period can be set any pressure setting control.and realize the timer ON/OFF function.
- 4.Sleep function and auxiliary small pump function, save energy and reduce consumption, extend machine's life.
- 5. Positive and negative feedback function, can be used for Pump, but also can be used to pump water and maintain the water level.
- 6.Over-pressure, low water level, sensor disconnection,inverter failure and alarm control functions ect.
- 7.Feedback can connect with passive remote pressure gauge,active voltage and current transmitter.
- 8. Feedback device power 0-24V can be modified, stronger commonality.
- 9. Feedback signals can be selected.it is more convenient to connect with outer.
- 10. Standard 0-10V voltage output, can also be arbitrarily modified to other voltage values, the application will be more flexible.
- 11.when the inverter get failure,the controller can choose the automatic transfer to the working frequency running (pressure range control)
- 12.Relay fault output function can be selected.
- 13. Strong adaptable, applicable to various brands frequency inverter at home and abroad.
- 14.All digital signal use photoelectric isolation, strong interference ability.
- 15.With complete key function.

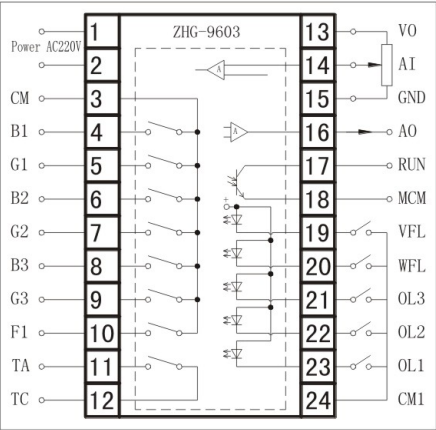
Technical Indications

Item	Item Description
Input Power Specification	Single phase 220VAC±5%,50Hz/60Hz
Digital input signal	Level signal, low level is actual, 5mA
Digital Output Signal	Max. load current I≤50mA
DC Output Power 1	5V/100mA, 10V/50mA, 24V/30mA
DC Output power 2	10V/10mA,
Reply Output Signal	Contact rating: 250VAC/3A, 30VDC/1A
Analog input Signal	10V/10bit
Analog Output Signal	10V/10bit
Ambient Temperature	-10~+50 C
Humidity	20~90%RH, No condensation of water droplets
Vibration	< 0.5G
Outline Dimension(W×H×T)	96mm×96mm×110mm

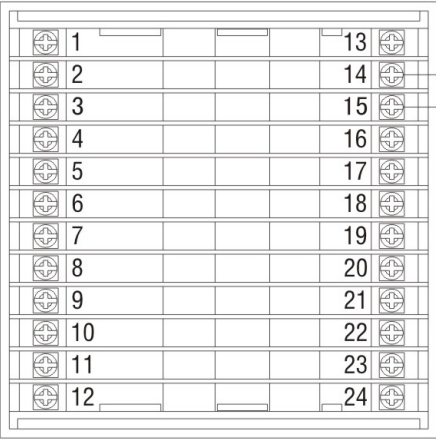
Controller Outline Dimension (Unit:mm)



Controller Circuit Terminal



Controller Wiring Schematic Diagram



Connect with 499Ω resistor outside if current signal is input.

Intelligence Pump Controller

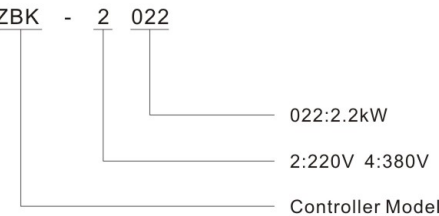
Main Features

ZBK Series Intelligence Pump Controller adopt the digital control chip, set upper and down liquid level and automatic control in one function. Automatic and manual two working mode can be selected.the controller have loss phase,overload,empty load,over voltage and under voltage function protection.Small size.elegant appearance.Applicable to a variety of Pump control occasions.

Product Characteristics

- Rated working voltage: single-phase AC220V / 50 ~ 60Hz; three-phase AC380V / 50 ~ 60Hz
- The matched motor power: 0.37 ~ 15kW
- Set upper and down liquid level and automatic control in one function
- Automatic and manual two working mode can be selected.
- Have loss phase, overload, empty load, over voltage and under voltage function protection
- The restart time 1-999 minutes can be adjusted while without load.
- Fault memory function
- Rust protection, can effectively prevent the motor rust
- AC digital signal detection, The probe is durable.
- Easy installation, simple debug.

Demonstration of the model



Model Selection

Model	Applicable power	Voltage	Figure
ZBK-2022	0.37-2.2	220	Fig1
ZBK-4055	0.75-5.5	380	Fig 2
ZBK-4075	7.5	380	Fig 2
ZBK-4110	11	380	Fig 2
ZBK-4150	15	380	Fig 2

Outline& Mounting Dimension (Unit:mm)

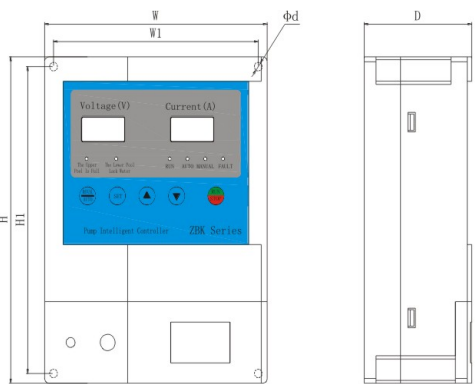


Fig.1

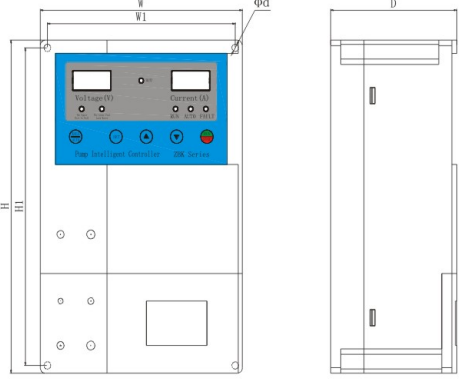
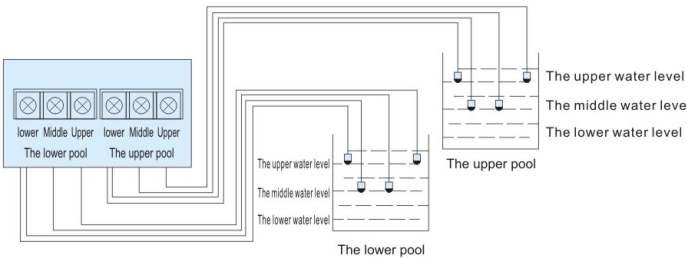


Fig.2

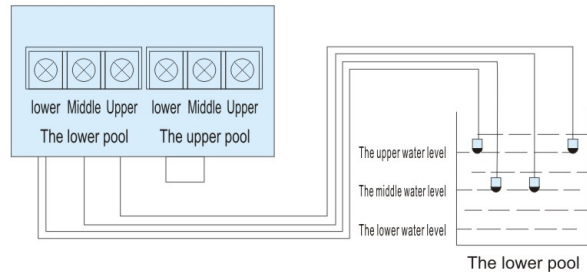
Model	Dimension(mm)						Picture	Gross Weight (kg)
	H	H1	W	W1	D	d		
ZBK-2022	200	188	150	138	73	Φ5	Fig.1	
ZBK-4055	300	286	200	186	125	Φ6.5	Fig.2	
ZBK-4075								
ZBK-4110								
ZBK-4150								

Wiring Diagram of typical application

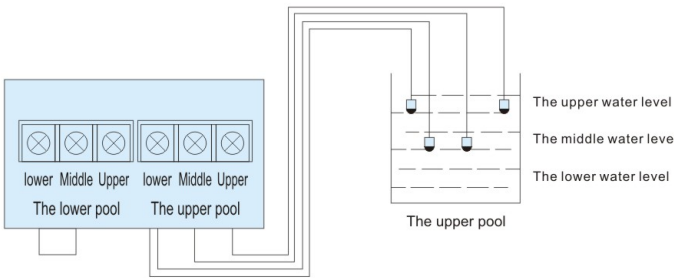
A、The upper and lower pool Pump connection



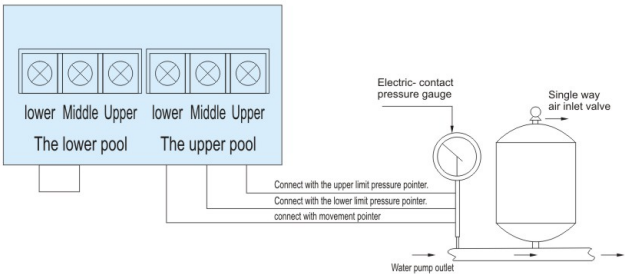
B、The lower pool water



C、The upper pool water



D、Constant pressure connection





Constant Pressure Pump Panel

Main Features

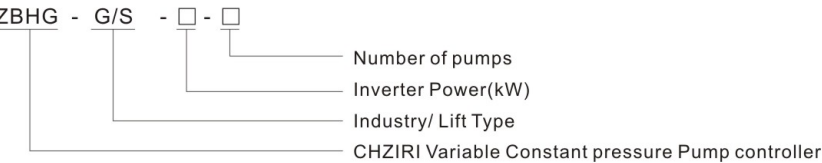
ZBHG series variable constant pressure pump control cabinet is the company development of a new generation of energy-saving pump products.

Its core is the AC frequency inverter technology and the microcomputer control technology. Use closed-loop control system. The control panel can automatically adjust the pump speed and the number of units running, so that the pressure of the pump network to maintain the required pressure and flow, so as to improve the quality of pump and high efficient energy saving purposes. The control cabinet can replace the high water-level tank, water tower and other facilities and valve adjustment and other measures. to improve the automation of pump and drinking water quality, to prevent secondary pollution, is an ideal modern pump products.

Application Range

- Urban and rural residential area, high-rise buildings pump, hotels, restaurants and large-sized structures' Pump and fire fighting water;
- City central heating pump and air-conditioning system of hot and cold water circulation system;
- Water pumping stations, pipeline system;
- Industrial production and water recycling water of industrial boiler pump system;
- Sewage treatment system;
- Old pump (pressure water tower high water-level and water tank supply) transformation;
- Agricultural irrigation, sprinkler irrigation and music fountain.

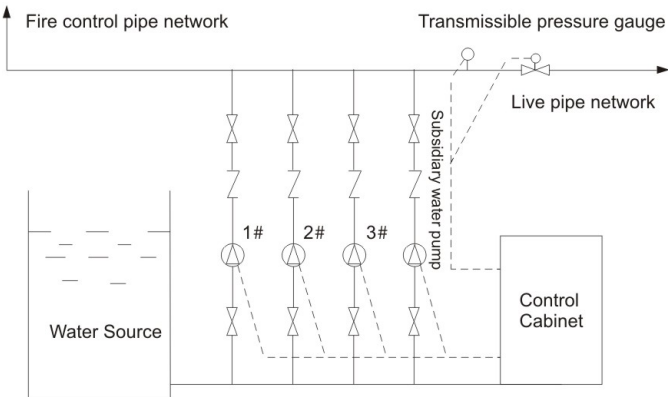
Demonstration Of The Model



Constant Pressure Pump Principle

When Pump automatic control system is working, Through the high sensitivity pressure transducer which is installed in the Pump network. the equipment detect the Pump network's pressure change when water level changes.

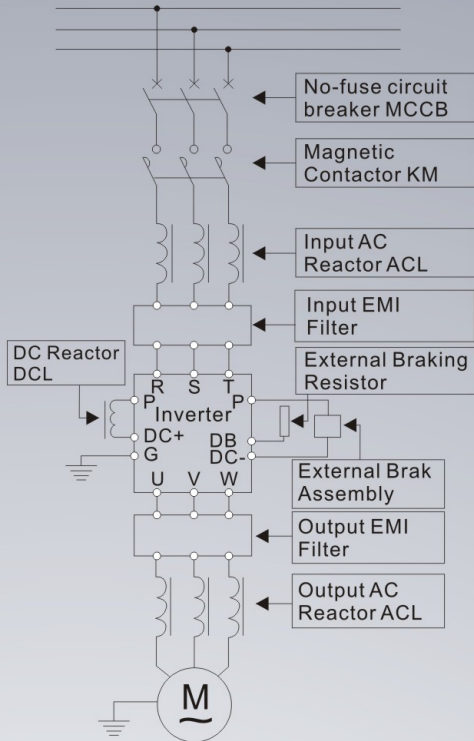
Continuously transmission the frequency inverter's change signal,After judging by microcomputer and comparing the setting pressure. send onechanging frequency command to the controller. The controller change the pump motor speed and the number of running by changing the frequency automatically adjust the peak water consumption, to ensure the Pump network pressure constant and meet the needs of users 'water.



Wiring Diagram for Inverter System

Inverter Optional Parts

Braking Unit,Braking Resistors,Reactor. Filter,Keypad,Remote Control Panel. Clients can select necessary parts according to the actual application.



Recommended Brake Assembly Matching Specification

Inverter		Braking Unit		Braking resistor		
Voltage(V)	Motor(KW)	Model	Quantity(PCS)	Recommend resistor value	Resistor specification	Quantity(PCS)
220V	0.75KW	Built-in		80W200Ω	80W200Ω	1
	1.5KW	Built-in		200W100Ω	200W100Ω	1
	2.2KW	Built-in		300W70Ω	300W70Ω	1
	3.7KW	Built-in		400W40Ω	400W40Ω	1
380V	0.75KW	Built-in		80W750Ω	80W750Ω	1
	1.5KW	Built-in		200W400Ω	200W400Ω	1
	2.2KW	Built-in		300W250Ω	300W250Ω	1
	3.7KW	Built-in		400W150Ω	400W150Ω	1
	5.5KW	Built-in		600W100Ω	600W100Ω	1
	7.5KW	Built-in		800W75Ω	800W75Ω	1
	11KW	Built-in		1000W50Ω	1000W50Ω	1
	15KW	Built-in		1500W40Ω	1500W40Ω	1
	18.5KW	Built-in		2500W35Ω	2500W35Ω	1
	22KW	Built-in		3000W27.2Ω	1500W54Ω	2
	30KW	4030	1	5000W19.2Ω	2500W40Ω	2
	37KW	4045	1	6000W16Ω	2000W50Ω	3
	45KW	4045	1	9600W13.6Ω	2500W54Ω	4
	55KW	4030	2	12000W10Ω	2000W60Ω	6
	75KW	4045	2	16000W7.5Ω	2000W60Ω	8
				Braking Resistor Box		Quantity(PCS)
	90KW	4030	3	9600W20Ω		3
	110KW	4220	1	9600W20Ω		3
	132~160KW	4220	1	40KW3.4Ω		1
	185~220KW	4220	1	60KW3.2Ω		1
	250~315KW	4220	2	40KW4.5Ω		2
	315~600KW	4220	3	60KW3Ω		3

Braking Unit

Main Features

The braking unit in the DBU series is applied to consume in the braking resistor the regenerative energy produced in the deceleration process of the motor in the form of heat energy. In this way, the braking performance of the frequency inverter is improved and the braking time of the frequency inverter is reduced.

1. Safety: The tripping function of the equipment against IGBT short circuit and breakdown can effectively avoid the hidden danger of fire caused by the breakdown of IGBT and the overload operation of the resistor in a long time.

2. Wide Compatibility: The special design of this braking unit allows for the usage of common resistance rather than the non-inductive resistance. It can be adjusted to adapt to 600V-760V DC chopper wave voltage. Further more, this device is used in various type of medium and low voltage frequency inverter (Specially designed product reaches up to 1200V)

3. Economy: This facility is characterized by high performance cost ratio. With relatively economical price, its quality is same as that of similar imported products. It is therefore considered as the most economical and practical component product for the braking unit of the inverter.

4. Adaptable to connection in Parallel: It adopts a book-shape design and can be installed in a parallel connection with zero clearance. It is recommended that up to 3 units can be connected in parallel.

Technical Specification

Model		AC200V-AC300V			AC380V~AC460V			
		2015	2022	2030	4030	4045	4220	4300
Input And Output	Peak current (A)	50	75	90	50	75	300	400
	Rated Current(A)	15	25	30	15	25	85	120
	Breaking initial voltage	380±5V			630/660/690/730/760V±10V			
	Maximum Hysteresis Error	About 8V			About 16V			
	Multiple units	Maximum: breaking unit are parallel connected						
Power	DC Bus Voltage Range	DC 243~400V			DC460~800V			
Indication Function	Power ON	The red "power" LED will be on when the inverter DC Bus voltage is above ~35VDC						
	Braking ON	The green "braking" LED will be on during braking unit work						
Ambient	Temperature	-10℃~+40℃ （-10℃~+50℃ for store）						
Humidity		90% RH (no dew)						
Vibration		1G(10~20Hz), 0.2G（20~50Hz）						
Protection		IP20						
Structure		Wall mounted						

Outline & Mounting Dimension(Unit:mm)

Type	Mounting Hole Size (mm)	Terminal Screw Size	Wire Size (mm²)	Figure
2015/2030/4015/4030/4045	6	M4	4-6	Fig.1
4220	8	M8	16-36	Fig.2

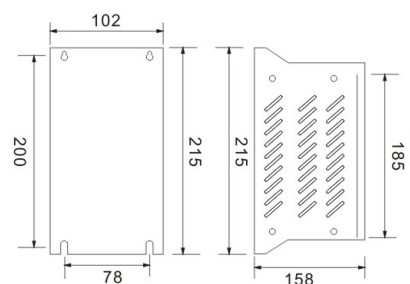


Fig.1

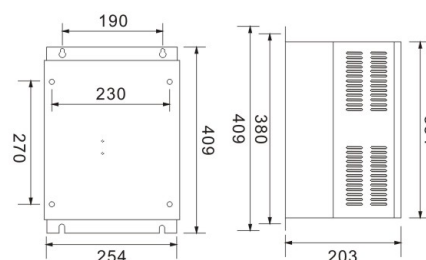


Fig.2



Braking Resistor

Main Features

The wirewound resistor is made by fixing two leading-out terminals on the cylindrical ceramic tube which is coiled by bandlet and wave shape alloy resistance wire. The surface of the ceramic tube is coated by layer of coating which is resistant to flaming and high temperature. As the framework of the resistance wire. The ceramic tube can also work as the radiator. This product can be made to order. It is suitable for simulated load test, the discharging of equipment, automatic control and the dynamic braking of the transducer.

Two terminal extensions are fixed on both ends of a ceramic tube on whose surface winds wave-shaped alloy resistance wire and a high temperature-resistant and fireproof coating are applied. The ceramic tube can function as resistance wire skeleton and heat radiator as well. This product can be customized to special needs of customers and applicable to simulation load test, equipped discharge, automated control and inverter's energy loss brake.

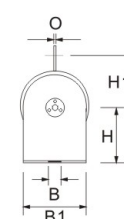
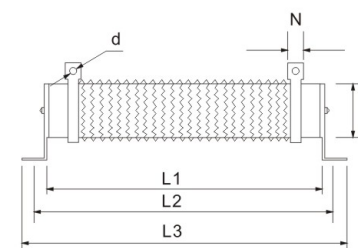
Technical Indications

- Rated Power Range: 50W-2500W
- Voltage Range: 0.5KV—10KV
- Resistance Range: 1R-1KR
- Dielectric Voltage: AC2.5KV-20KV/1min 50Hz
- Rated Temperature Rise: 375℃
- Temperature Coefficient: 80-400ppm/℃
- Carrier Material: 0Cr25AL5/Ni80Cr20 Optional
- Advantage: Work in high voltage
- Disadvantage: Inferior vibration
- Packing: Paper box

Outline & Mounting Dimension(Unit:mm)

Rated power (w)	Dimension(mm)										
	L1(±2)	D(±2)	L3(±3)	D(±2)	B	B1	H	H1(±3)	N	φd	O
50	102	124	146	28	6.5	28	28	61	10	4.5	1.2
60	102	124	146	28	6.5	28	28	61	10	4.5	1.2
80	152	174	196	28	6.5	28	28	61	10	4.5	1.2
100	182	204	226	28	6.5	28	28	61	10	4.5	1.2
120	182	204	226	28	6.5	28	28	61	10	4.5	1.2
150	195	217	239	40	8	40	41	81	12	5.5	2.0
200	195	217	239	40	8	40	41	81	12	5.5	2.0
300	282	304	326	40	8	40	41	81	12	5.5	2.0
400	282	304	326	40	8	40	41	81	12	5.5	2.0
500	316	338	360	50	8	50	45	101	16	6	2.0
600	345	367	389	40	8	40	41	81	16	5.5	2.0
750	316	338	360	50	8	50	45	101	16	6	2.0
1000	300	325	360	60	8.5	60	60	119	16	6	2.0
1200	415	440	465	60	8.5	60	60	119	16	6	2.0
1500	415	440	465	60	8.5	60	60	119	16	6	2.0
2000	510	535	560	60	8.5	60	60	119	16	6	2.0
2500	600	625	650	60	8.5	60	60	119	16	6	2.0

Note: For big power inverter, we suggest you use braking resistor box.



Power Resistor Box

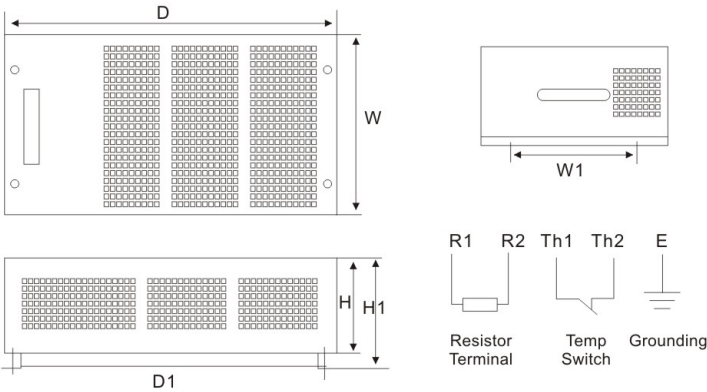
Main Features

The BRU series of products are resistor boxes that are assembled with wire wound resistors and are applicable for power-consuming circuits of inverter for braking equipment with large rated power and current,testing equipment,elevator and crane.its operating voltage is 500V DC and rated power ranges from 1KW to 10KW

Technical Indications

- 1.Power Range:2.4W-20KW
- 2.Operating Voltage Range:<800V
- 3.Resistance Range:1R-1KR
- 4.Electric strength: AC 3KV 50HZ 5S
- 5.IP Grade:IP20/IP23
- 6.Vibration:0.5g
- 7.Range of temperature excursion: <400ppm/℃
- 8.Material of the current carrier: 0Cr25AL5.
- 9.Advantages: relatively bad working environment.

Outline & Mounting Dimension(Unit:mm)



Type	Power (KW)	Dimension(mm)						Terminal	Weight (kg)	Cable (mm²)	Combination
		W	D	H	H1	D1	W1				
BRU	1	250	500	125	150	480	180	M6	5.3	6	0.5KW*2
	1.5	250	500	125	150	480	180	M6	5.9	6	0.5KW*3
	2	280	500	145	170	480	210	M6	6.5	6	1.0KW*2
	3	280	500	145	170	480	210	M6	7.8	6	1.5KW*3
	4.5	340	600	145	170	580	291	M6	12	6	1.5KW*3
	6	340	600	145	170	580	291	M6	14	6	1.5KW*4
	8	410	685	145	170	642	340	M6	16.5	6	2.0KW*4
	10	410	685	145	170	642	340	M6	18.5	6	2.0KW*5
	16	410	685	145	340	642	340	M6	18.5	6	8KW*2
	20	410	685	145	340	642	340	M6	18.5	6	10KW*2

Power Resistor Unit

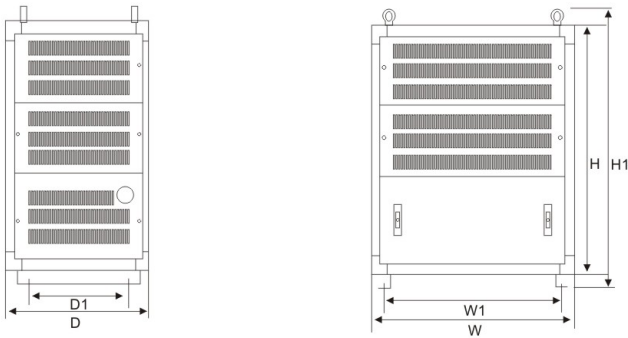
Main Features

The power resistor unit in the PRU series is a type of resistor cabinet which is made up of wire wound resistors. It is suitable for the dynamic braking circuit of the transducer of the high-power, strong current braking equipment, testing equipment, elevator and crane. The working voltage of the routine product is below 1200V DC and the rated power ranges from 20KW to 200KW.

Technical Indications

- 1. Rated power range: 30kW-200kW
- 2. Operating voltage range: <1200V
- 3. Rated resistance range: 0.5kR-100kR
- 4. Electric strength: AC 3KV 50Hz 5s
- 5. IP Grade: IP00/IP23
- 6. Vibration: 0.5g
- 7. Range of temperature excursion: ≤400ppm/℃
- 8. Material of the current carrier: 0Cr25AL5
- 9. Advantage: High-power
- 10. Disadvantage: Relatively poor vibration resistance
- 11. It is applied in elevator, lifting high-power brake circuit and the simulated load test

Outline & Mounting Dimension(Unit:mm)



Type	Power (KW)	Dimension(mm)						Terminal	Gross weighth (kg)	Cable (mm²)	Combination
		W	D	H	H1	D1	W1				
PRU	30	700	500	1100	1185	342	615	M6	73.4	16	12*2. 5kW
	40	700	500	1100	1185	342	615	M6	87	25	16*2. 5kW
	50	700	500	1500	1585	342	615	M6	100	25	20*2. 5kW
	60	700	500	1500	1585	342	615	M6	114	35	24*2. 5kW
	70	700	500	1800	1885	342	615	M6	127	35	28*2. 5kW
	80	700	500	1800	1885	342	615	M6	138	50	32*2. 5kW
	90	700	500	2000	2085	342	615	M6	155	50	36*2. 5kW
	100	700	500	2000	2085	342	615	M6	165	50	40*2. 5kW
	200	1400	500	2000	2085	342	615	M6	331	75	2*100kW

AC Input Reactor (Voltage drop 2%)

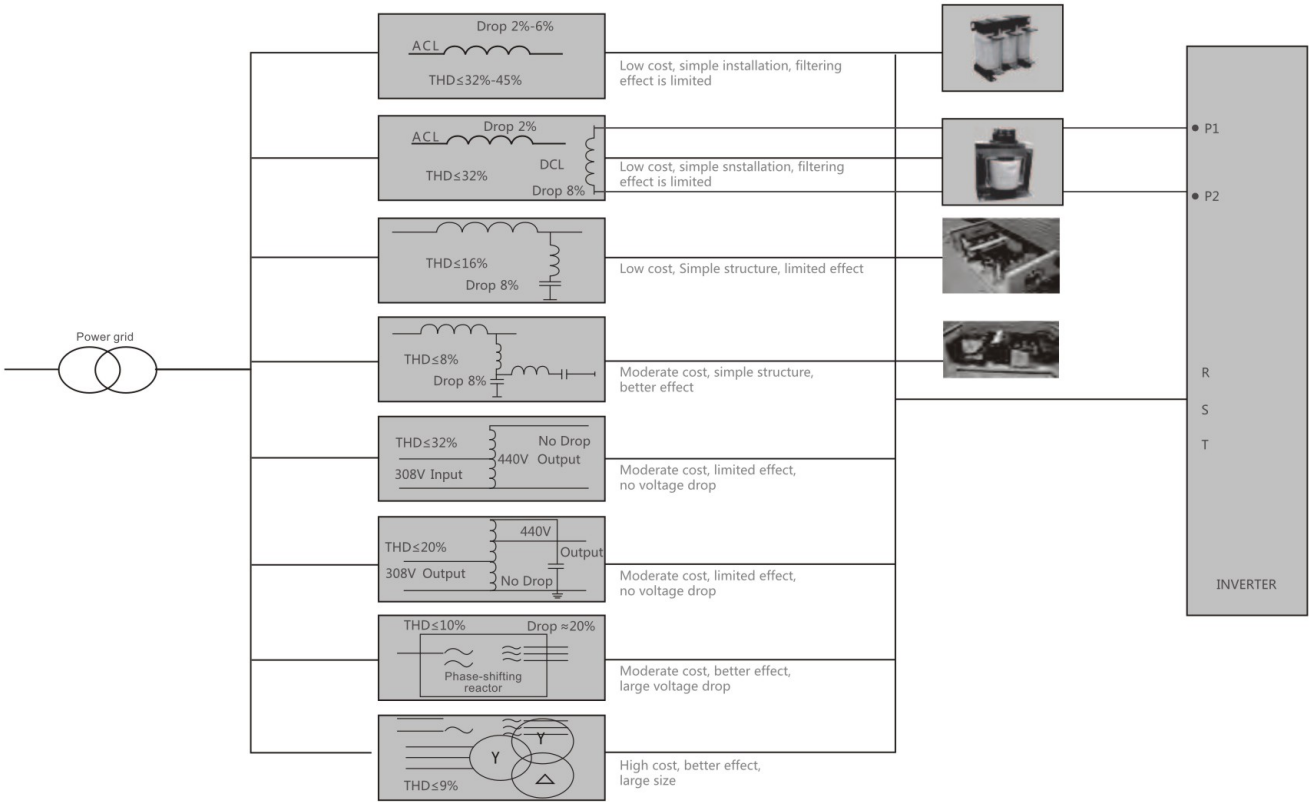
Main Features

Due to the excellent foil winding structure, CHZIRI input AC reactor is characterized by small DC resistance, strong ability to withstand short circuit and strong short-time overload capability. F Class insulation materials with reliable performance make our product working even in harsh operating conditions. Designed with low magnetic flux density, this line reactor has high linearity and powerful overload capacity. Moreover, combined with VPI process, the reactor noise is low. The core of our AC line reactor is made by grain-oriented cold rolled silicon steel sheets, so it features of high efficiency, low core loss and low temperature rise.

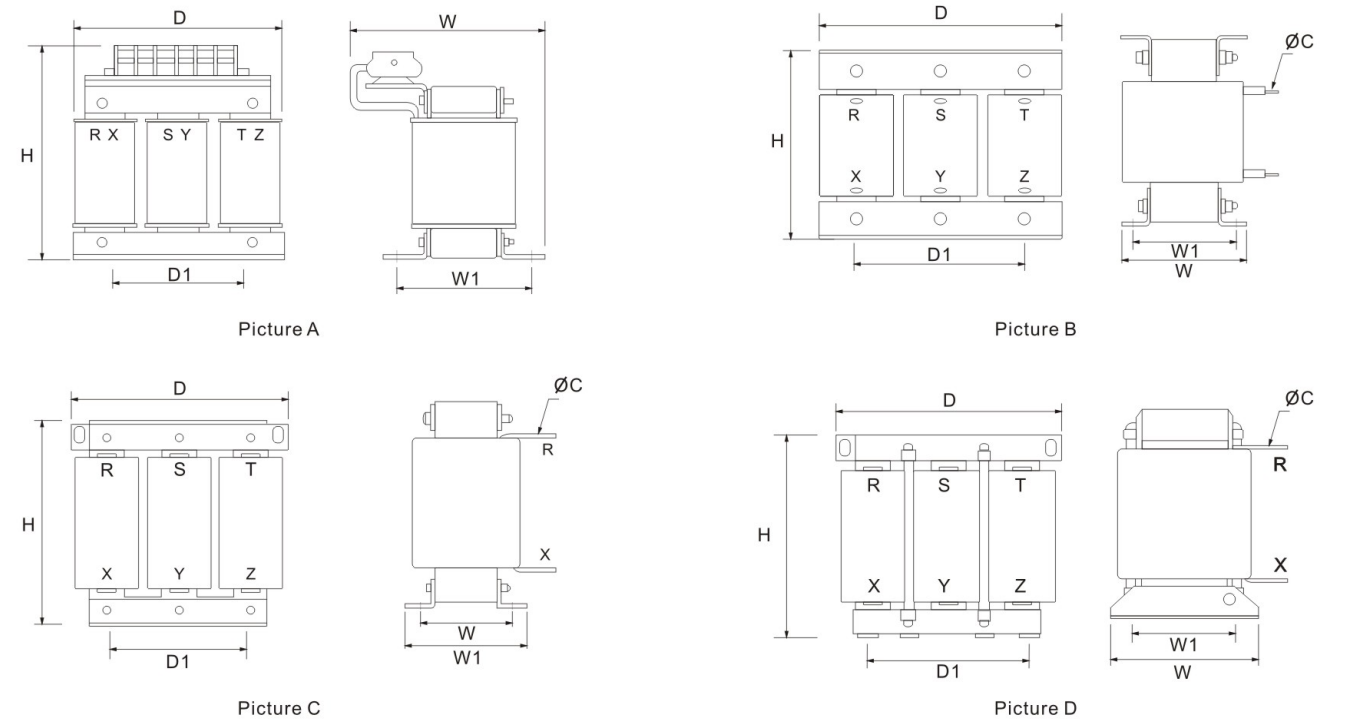
Technical Indications

- 1.Rated operating Voltage: $\phi 3/380V/50Hz$
- 2.Rated operating current: 5A to 1600A
- 3.Operating environment temperature:40℃
- 4.Dielectric strength: Core-wingding 3000VAC/50Hz/5mA/10S
No flashover breakdown(factory test)
- 5.Insulation Resistance>1000VDC, Insulation resistance value >100MΩ.
- 6.Noise of the reactor is less than 65dB (Tested at the point with a horizontal distance of 1 meter away from the reactor).
- 7.Level of protection:IP00
- 8. Insulation class: Above F
- 9.Executive standard of product:GB19212.1-2008,GB19212.21-2007.GB1094.6-2011.

Solution of Frequency Input



Outline & Mounting Dimension(Unit:mm)



Reactor Type	No.	Power (kW)	Rated Current	Inductance (mH)	Voltage Drop	Insulation Class	Weight (Kg)	Dimension(±0.5mm)					
								D	D1	W	W1	H	A*B
ACL-0005-EISC-E2M8C	A	1.5	5A	3.8mH	2%	F、H	2.5	110	91	120	65	135	6*11
ACL-0007-EISC-E2M0C		2.2	7A	2.5mH	2%	F、H	2.5	110	91	120	65	135	6*11
ACL-0010-EISC-E1M4C		3.7	10A	1.5mH	2%	F、H	2.6	155	95	110	61	155	6*15
ACL-0015-EISC-EM93C		5.5	15A	1.0mH	2%	F、H	3.3	155	95	130	80	155	6*15
ACL-0020-EISC-EM70C		7.5	20A	0.75mH	2%	F、H	3.3	155	95	135	80	155	6*15
ACL-0030-EISC-EM47C		11	30A	0.60mH	2%	F、H	4.9	190	120	115	85	150	8.5*20
ACL-0040-EISC-EM35C	B	15	40A	0.42mH	2%	F、H	4.9	195	120	110	82	165	8.5*20
ACL-0050-EISC-EM28C		18.5	50A	0.35mH	2%	F、H	5.9	195	120	130	102	165	8.5*20
ACL-0060-EISC-EM24C		22	60A	0.28mH	2%	F、H	5.9	195	120	135	107	165	8.5*20
ACL-0090-EISC-EM16		30	80A	0.19mH	2%	F、H	6.9	195	120	135	107	165	8.5*20
ACL-0090-EISC-EM16		37	90A	0.19mH	2%	F、H	6.9	195	120	135	107	165	8.5*20
ACL-0120-EISC-EM12C		45	120A	0.13mH	2%	F、H	10	250	182	135	96	230	11*18
ACL - 0150 - EISH - E95UC	C	55	150A	0.11mH	2%	F、H	14	295	214	150	110	240	11*18
ACL - 0200 - EISH - E70UC		75	200A	0.08mH	2%	F、H	16	295	214	160	120	240	11*18
ACL - 0250 - EISH - E56UC		110	250A	0.065mH	2%	F、H	18	295	214	160	120	240	11*18
ACL - 0290 - EISH - E48UC		132	290A	0.05mH	2%	F、H	21	325	243	165	122	270	12*20
ACL - 0330 - EISH - E42UC		160	330A	0.05mH	2%	F、H	22	325	243	165	122	270	12*20
ACL - 0390 - EISH - E36UC		185	390A	0.044mH	2%	F、H	25	325	243	180	137	270	12*20
ACL - 0490 - EISH - E28UC	D	220	490A	0.035mH	2%	F、H	33	385	260	200	175	350	12*20
ACL - 0530 - EISH - E26UC		240	530A	0.035mH	2%	F、H	42	385	260	200	175	350	12*20
ACL - 0600 - EISH - E23UC		280	600A	0.025mH	2%	F、H	42	395	275	200	175	350	12*20
ACL - 0660 - EISH - E21UC		300	660A	0.025mH	2%	F、H	45	395	275	200	175	350	12*20
ACL - 0800 - EISH - E17UC		380	800A	0.025mH	2%	F、H	55	430	295	215	190	400	12*20
ACL - 1000 - EISH - E14UC		450	1000A	0.014mH	2%	F、H	56	430	295	215	190	450	12*20
ACL - 1250 - EISH - E11UC		550	1200A	0.011mH	2%	F、H	76	490	345	225	195	575	14*25

Note: ForAC input reactor at 4% voltage drop, Feel free to contact with us.

AC Output Reactor (Voltage Drop 1%)

Main Features

Based on different operating frequency, clients can reasonably choose the magnetic materials (such as silicon steel sheet, ferrite, amorphous iron core and magnetic powder core) as the raw material of this product.

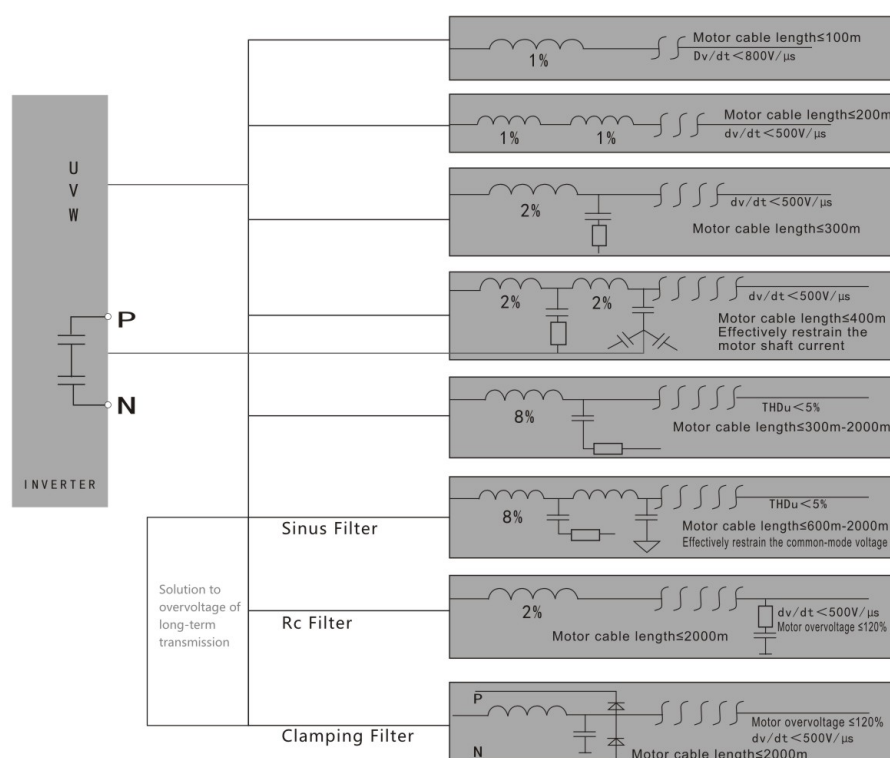
The excellent performance of this equipment is due to the foil winding structure, low DC resistance, strong resistance to electromagnetic force and good overload ability in short time. F and above class composite insulating materials are used to ensure the reliable performance of the output AC reactor under harsh working conditions; The advantages of the design includes low magnetic flux density, high linearity and good overload capacity. Moreover, the cooperation of the design and the vacuum pressure impregnation process ensures the low noise of the product.



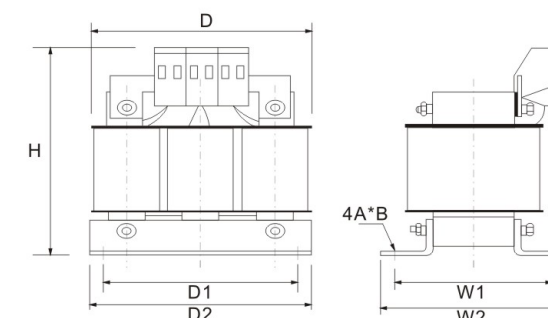
Technical Indications

1. Rated operating Voltage: $\phi 3/380V/50Hz$
2. Rated operating current: 5A to 1600A
3. Operating environment temperature: $40^{\circ}C$
4. Dielectric strength: Core-winding 3000VAC/50Hz/5mA/10S No flash over breakdown(factory test)
5. Insulation Resistance $>1000VDC$, Insulation resistance value $>100M\Omega$.
6. Noise of the reactor is less than 80dB (Tested at the point with a horizontal distance of 1 meter away from the reactor).
7. Level of protection: IP00
8. Insulation class: Above F
9. Executive standard of product: GB19212.1-2008, GB19212.21-2007, GB1094.6-2011.

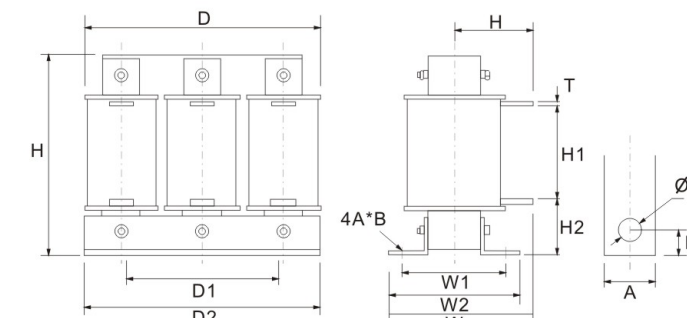
Solution of Frequency Output



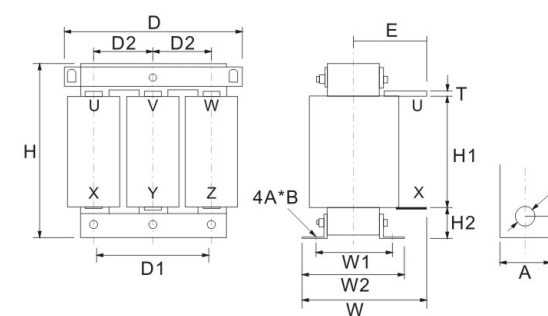
Outline & Mounting Dimension(Unit:mm)



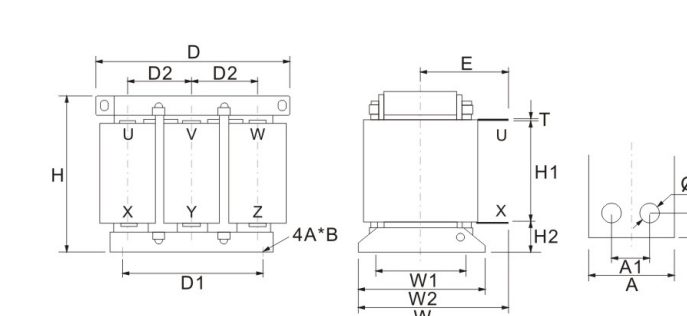
Picture A



Picture B



Picture C



Picture D

Reactor Type	No.	Power (kW)	Rated Current	Inductance (mH)	Voltage Drop	Insulation Class	Weight (Kg)	Dimension(±0.5mm)					
								D	D1	W	W1	H	A*B
OCL-0005-EISC-E1M4C	A	1.5	5A	1.4mH	1%	F、H	2.4	110	91	105	84	130	6×11
OCL-0007-EISC-E1M0C		2.2	7A	1.0mH	1%	F、H	2.4	110	91	105	84	130	6×11
OCL-0010-EISC-EM70C		3.7	10A	0.7mH	1%	F、H	2.4	110	91	105	84	130	6×11
OCL-0015-EISC-EM47C		5.5	15A	0.47mH	1%	F、H	3	155	95	148	76	130	6×15
OCL-0020-EISC-EM35C	B	7.5	20A	0.35mH	1%	F、H	3.8	155	95	148	76	150	6×15
OCL-0030-EISCL-EM23C		11	30A	0.23mH	1%	F、H	4.6	155	95	148	96	130	6×15
OCL-0040-EISCL-EM18C		15	40A	0.18mH	1%	F、H	4.8	155	95	148	96	130	6×15
OCL-0050-EISCL-EM14C		18.5	50A	0.14mH	1%	F、H	5	155	95	148	96	130	6×15
OCL-0060-EISCL-EM12C	C	22	60A	0.12mH	1%	F、H	5.1	195	120	188	92	165	8.5×20
OCL-0080-EISC-E87UC		30	80A	0.087mH	1%	F、H	6	195	120	188	92	165	8.5×20
OCL-0090-EISC-E78UC		37	90A	0.78mH	1%	F、H	6	195	120	188	92	165	8.5×20
OCL-0120-EISC-E58UC		45	120A	0.58mH	1%	F、H	9	195	120	188	112	165	8.5×20
OCL-0150-EISH-E47UC	D	55	150A	0.047mH	1%	F、H	10	250	182	81	113	230	11×18
OCL-0200-EISH-E35UC		75	200A	0.035mH	1%	F、H	12	250	182	81	123	230	11×18
OCL-0250-EISH-E28UC		110	250A	0.028mH	1%	F、H	12	250	182	81	123	230	11×18
OCL-0290-EISH-E24UC		132	290A	0.024mH	1%	F、H	20	290	214	95	127	250	11×18
OCL-0330-EISH-E21UC	E	160	330A	0.021mH	1%	F、H	20	290	214	95	132	250	11×18
OCL-0390-EISH-E18UC		185	390A	0.018mH	1%	F、H	20	290	214	95	132	250	11×18
OCL-0490-EISH-E14UC		220	490A	0.014mH	1%	F、H	28	320	243	106	143	320	12×20
OCL-0530-EISH-E13UC		250	530A	0.013mH	1%	F、H	29	320	243	106	143	320	12×20
OCL-0600-EISH-E12UC	F	280	600A	0.012mH	1%	F、H	33	320	243	106	158	320	12×20
OCL-0660-EISH-E11UC		300	660A	0.011mH	1%	F、H	38	320	243	106	158	320	12×20
OCL-0800-EISH-E8U7C		380	800A	0.0087mH	1%	F、H	40	385	260	123	198	395	12×20
OCL-1000-EISH-E7U0C		450	1000A	0.007mH	1%	F、H	40	385	260	123	198	395	12×20
OCL-1200-EISH-E5U8C	G	550	1200A	0.0058mH	1%	F、H	56	395	275	130	198	435	12×20
OCL-1600-EISH-E4U3		630	1600A	0.0043mH	1%	F、H	92	395	275	130	198	435	12×20

Note: For AC output reactor at 2% voltage drop, Feel free to contact with us.

EMI Filter

Main features

- Wire current area.
- Moderate leakage current.
- The filters are suited for power supplies for industrial installations, Particularly for the output filter used on inverter equipments. Such as inverter speed controlled systems.
- Rated voltage:275/480VAC.
- Operating frequency:50/60Hz.
- Rated current:5A-1000A.

Outline & Mounting Dimension(Unit:mm)

Model	A	B	C	D	E	F	G	H	I	J	K	M	N	P	L
5EBK5															
10EBK5	184	160	202	42	60	86	18	58	M4	38				M4	6.4x9.4
16EBK5															
25EBK5															
35EBK5	243	224	265	58	70	102	25	92	M6	58	M4	74	49	M6	6.4x9.4
50EBK5															
65EBK5															
80EBK5															
100EBK5															
130EBK5	354	323	388	66	155	188	30	92	M8	62	M4	86	56	M8	6.4x9.4
160EBK5															
200EBK5															

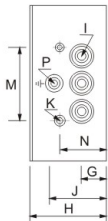
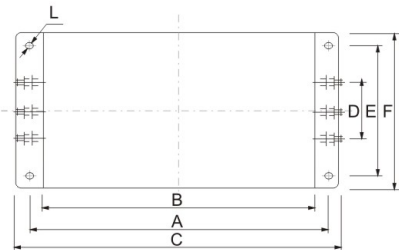


Fig.1

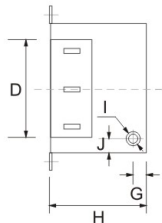
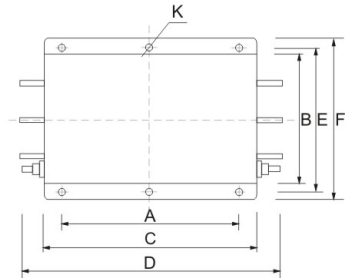


Fig.2

Sine Wave Filter

Main Features

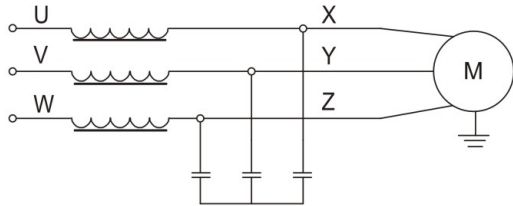
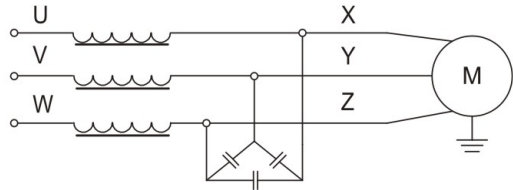
The sine wave filter transforms the PWM Output signal of the electro motor into a smooth sine wave of the low residual ripple voltage so as to prevent the damaged to the winding insulation of the motor.It also reduces the occurrence of the distributed capacitance cause by the over-length of cable and the phenomenon of resonances which is resulted from distributed inductance. Besides.It eliminates the over-voltage of the motor caused by high dv/dt, spares the damage of the motor in advance resulted from the eddy-current loss.the sine wave filter also reduces the perceivable noise of the electro motor.

Features

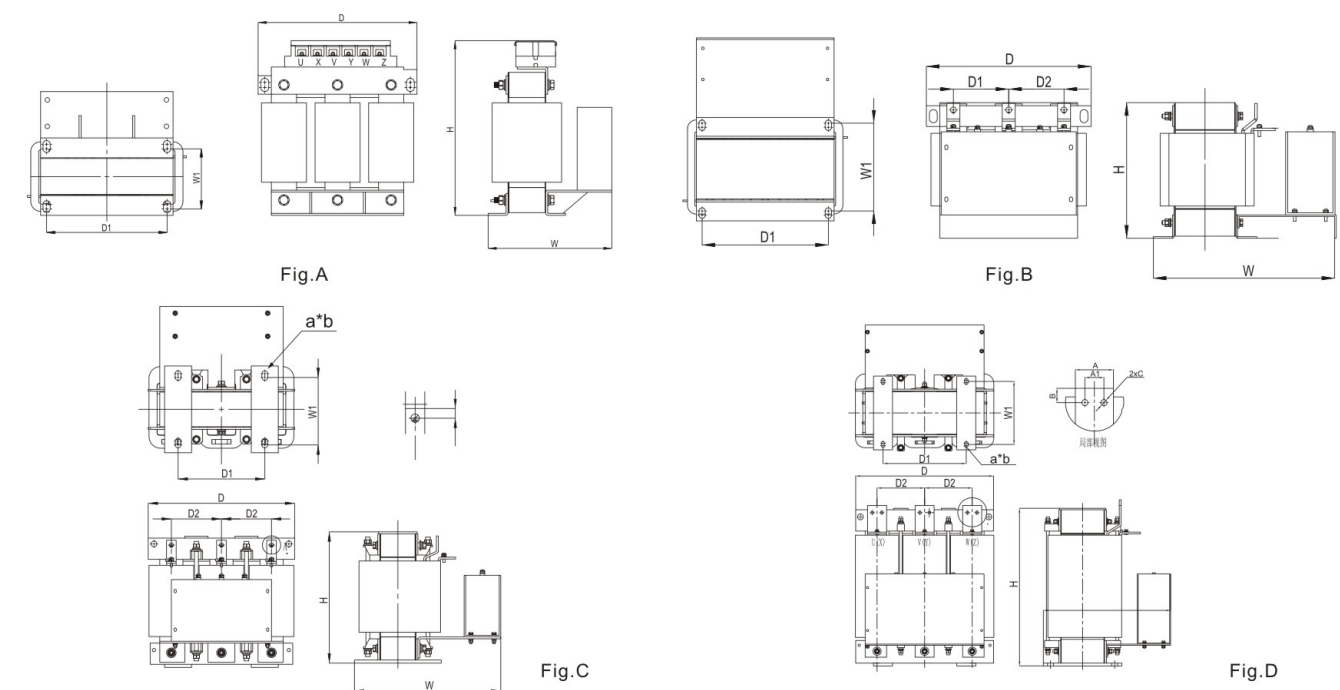
This sine wave filter adopts the foil winding structure and the copper bar leading-out.It is featured with DC resistance. Strong resistance to electromagnetism and excellent overload ability in short time.The usage of F or above grade composite insulating materials with high performance allows for the reliable performance of the equipment under harsh working conditions.Its strong insulating strength makes it possible to bear ultra high voltage shock. The vacuum pressure impregnation process adopted in this sine wave filter reduces the perceivable noise to a low degree.



Electrical Schematic Diagrams



Outline & Mounting Dimension(Unit:mm)



Type	Power (kW)	Rated Current (A)	Insulation Grade	Inductance Value (mH)	Picture	Dimension (±0.5mm)							Material	Gross weight (kg)
						D	H	W	D1	W1	a*b	C		
OSF-0015-EISA-E3M0	5.5	15	H	4.00	Fig.A	250	270	220	182	91	11*18	φ 6.4	AL	22
OSF-0020-EISA-E3M0	7.5	20	H	3.00		250	280	220	182	100	11*18	φ 6.4	AL	22
OSF-0030-EISA-E2M0	11	30	H	2.00		250	280	240	182	106	11*18	φ 6.4	AL	26
OSF-0040-EISA-E1M4	15	40	H	1.40		250	280	240	182	121	11*18	φ 6.4	AL	26
OSF-0050-EISA-E1M2	18.5	50	H	1.20		290	290	250	214	110	11*18	φ 6.4	AL	31
OSF-0060-EISA-E1M0	22	60	H	1.00		290	290	250	214	120	11*18	φ 6.4	AL	45
OSF-0080-EISA-EM80	30	80	H	0.80	Fig.B	320	320	270	243	142	12*20	φ 6.4	AL	60
OSF-0090-EISA-EM65	37	90	H	0.65		320	280	340	243	159	12*20	φ 11	AL	60
OSF-0120-EISA-EM52	45	120	H	0.52		320	280	355	243	169	12*20	φ 11	AL	90
OSF-0150-EISA-EM45	55	150	H	0.45	Fig.C	320	360	390	225	175	15*25	φ 11	AL	90
OSF-0200-EISA-EM35	75	200	H	0.35		400	355	435	225	200	15*25	φ 11	AL	95
OSF-0250-EISA-EM30	110	250	H	0.30		400	340	470	225	225	15*25	φ 11	AL	115
OSF-0300-EISA-EM24	132	300	H	0.15		430	470	470	250	250	15*25	φ 14	AL	170
OSF-0360-EISA-EM20	160	360	H	0.15		430	470	470	250	250	15*25	φ 14	AL	170
OSF-0450-EISA-EM15	185	450	H	0.15		430	470	470	250	250	15*25	φ 14	AL	170
OSF-0500-EISA-EM15	220	500	H	0.15		455	470	480	270	250	15*25	φ 14	AL	190
OSF-0600-EISA-EM12	280	600	H	0.12		480	535	480	275	250	15*25	φ 14	AL	250
OSF-0660-EISA-EM10	315	660	H	0.10	Fig.D	480	530	510	300	250	15*25	φ 14	AL	255
OSF-0750-EISA-EM09	355	750	H	0.09		475	570	515	275	250	15*25	φ 14	AL	290
OSF-0900-EISA-E75U	400	900	H	0.08		550	620	530	275	250	15*25	2- φ 13	AL	330

Notes:1.All the above dimensions are subject to tolerance.So please contact with us for type selection.



Remote Control Cable

Main Features

ZIRI Electrical can provide a range of extended shielding remote control cables with different specifications such as 1m,1.5m,2m,3m,5m and 10m.If there is any special requirement on cable length. Just place an order with the company.



Other Optional Parts For Inverters



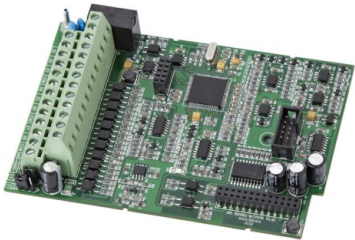
Aluminum Power Resistor



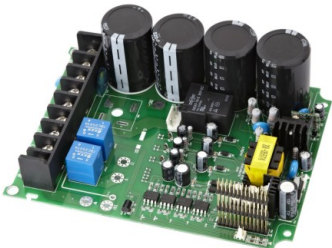
RS485-USB Converter



ZVF300 Inverter Keypad



Inverter Control Board



Inverter Drive Board



Infineon IGBT

Note: For more details.Please contact with us directly.