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ISO 9001 CE

Version: A01

KD200 ALL SERIES CATALOGUE

- **KD200** (General Purpose)
- **KD200E** (Elevator & Lift Series)
- **SP200** (Off Grid Solar Series)
- **KD200-2S/4T** (220V Input, 380V Output Series)
- **KD200-2SS** (Single Phase Output Series)

COMPANY INTRODUCTION

Shenzhen K-Easy Automation Co.,Limited is a professional manufacturer, specialize in R&D And production of AC drives. We have built up a comprehensive product family. Frequency inverters' power covers the range from 0.4 to 630kW, and voltage range is between 220V and 480V. More than inverters are running smoothly 300, 000 units at different industrial sites.

Why Us

- We believe “quality is life ”,so we will test all products before shipment,All Module of our VFD will be used quality is life with Infenion only, With years of persistence, the total failure ratio of Our frequency inverters has been controlled below 1%. We never lose a customer because of the quality problem;
- With Strong R&D and Engineer Team, makes our after-service very easy, For all doubts and requesting for technologies supporting, We can offer detailed Solution without delay, so for us,“Not Only Products, But also solutions”;
- All our products will be offered with 24 months Warranty Period instead of 18 months.

Join us, enjoy the business.

Name Rules

KD200 - 4T - 0.75G/1.5P

① ② ③

Serial number	Description	Meaning
①	KD200 series	Series Name
②	Voltage level	2S: Single-phase 220V Range:-15%~20% 4T: Three-phase 380V Range:-15%~20%
③	Adaptable motor power(KW)	0.4KW~630KW

QUALITY SERVICE

- Our VFD has been used in Shenzhen and Guangzhou Metrol Since Year 2014.
- Problem Rate Less Than 1%..
- Support OEM Service
- Strong Engineer Team
- 24 Months Warranty Time
- Very Good After Sales-Service, Best Solutions Can be always offered within 2 hours

Products Introduction

- KD200（General Purpose）
- KD200E（Elevator & Lift Series）
- SP200（Off Grid Solar Series）
- KD200-2S/4T（220V Input, 380V Output Series）
- KD200-2SS（Single Phase Output Series）

KD200 Series is our general purpose series, which support 110V & 220V & 380V & 480V & 690V,0.4KW~1132KW, Built In C2/C3 standard EMC filter, Nice torque Vector Control, can add many kinds of PG card to support encoder connection. with 24 months warranty offered, it can almost match all customers' requests.

KD200:Power Rate	1 phase & 3 phase Input 3 phase output	220V (+-20%) 0.4KW~4.0KW	380V (+-20%) 0.4KW~630KW

Best Solution For General Purpose Series

Vector Control | PID | Multi-step Freq. | ModBus | Over-voltage & Over-current stall control | Torque Boost | Wobble Frequency Control | Simple PLC | FDT | ……

Start Torque @0.5Hz
100%

Overload Capability
200%

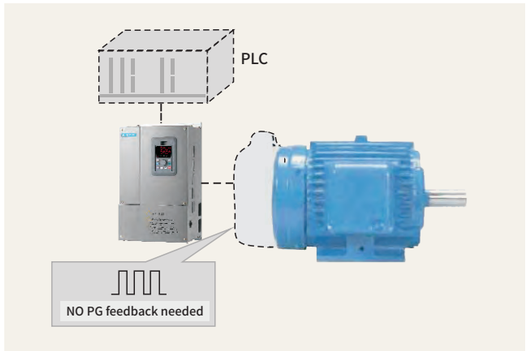
Speed accuracy ±
0.5%

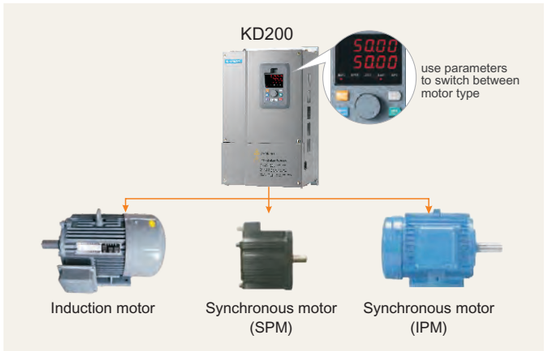
Ambient Temp ℃
40

Speed Regulation
1:100

Multi-step speed max.
16

REASONABLE STRUCTURAL DESIGN





Positioning Capability without External Devices

- ✧ Use an IPM motor to perform position control –without motor feedback. Electrical saliency in IPM motors makes it possible to detect speed, direction and rotor position without the use of external feedback devices.
- ✧ Positioning functionality without a PLC. Visual programming in DriveWorcs EZ eliminates the need for external controllers by giving the user the power to create customized functions such as position control.

Advanced drive technology

- ✧ Capable of driving different types of motor. KD200 series runs not only induction motors, but also synchronous motors lice IPM*1 and SPM*2 motors with high performance open and closed loop vector control.
- ✧ Minimize equipment needed for your business by using the same drive to run induction and synchronous motors.

❶ Interior Permanent Magnet Motor (Motors with permanent magnets inserted into the rotor)

❷ Surface Mounted Permanent Magnet Motor (Motors with permanent magnets mounted on the surface of the rotor)

ADVANCED DESIGN

EMC Filter
C3 Level Filter Build-In Standardly
Better EMC Performance

IGBT Selection
Selection Of Large Margin
Current>2 Times of VFD Current

Overload Capacity
120% long time running without trip.
150% for 60 seconds
180% for 10 seconds

Voltage Range
Compatible with ±15% input voltage fluctuation, output voltage s table.

S Curve
S Curve Acceleration/Deceleration
Better Start /Stop Performance

Flying Start Function
Restart The Running Motor Smoothly
No Current Surge
High Accuracy

Protection
Overcurrent、Overvoltage、PID feedback failure、Overheat、Undervoltage、The main contactor is abnormal、Motor overload、Fast protection、Unbalanced output、Frequency conversion overload、System abnormal、Motor detection abnormalOutput phase loss、Input phase loss、Short circuit protection of control board power supply.

SPECIFICATION

Input & Output

Input voltage	1AC 220~240V(±15%) 3AC 220~240V(±15%) 3AC 380~460V(±15%)
Input frequency	50Hz/60Hz±5%
Output voltage	0~input voltage, deviation<±3%
Output frequency	0~600Hz

Control Characteristics

Control mode	V/f control Sensorless vector control Torque control
Speed accuracy	±0.5% (V/f) ±0.2% (SVC)
Speed fluctuation	±0.3% (SVC)
Torque response	<10ms (SVC)
Starting torque	0.5Hz : 150% (V/f) 0.25Hz:180% (SVC)
Overload capability	150% Rated Current60s 180% Rated Current10s 200% Rated Current1s
Simple PLC Multi-step speed	16 steps speed External digital signal control Internal clock
PID function	Standard build-in
Communication	Modbus

Featured Functions

Featured functions	Input&Output delay Flexible parameters display AVR (Automatic Voltage Regulation) Timing control, fixed length control, etc. Simple PLC, 16-steps speed control Torque control build-in S curve acceleration/deceleration Multi-functional programmable keypad V/f separated control

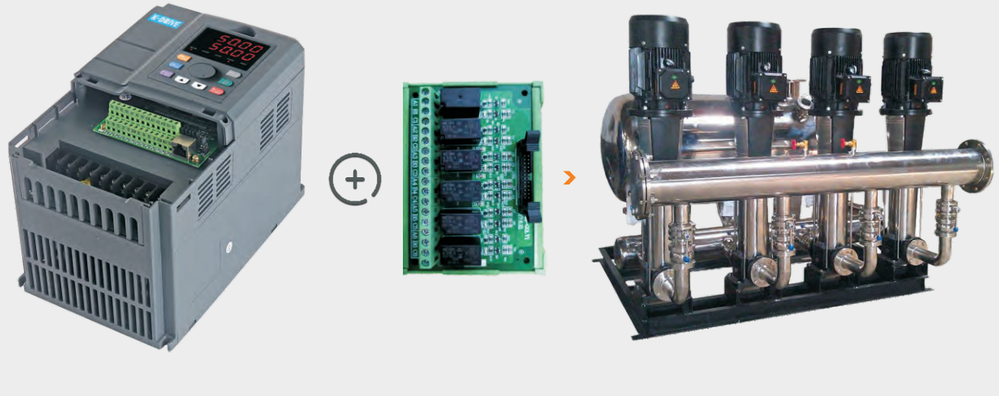
Environment Limitation

Installation location	Without direct sunlight, free from dust, corrosive gases, oil mist, flammable gases, water vapor, water drop and salt, etc.
Altitude	0~2000m Derated 1% for every 100m when the altitude is above 1000 meters
Ambient temperature	-10℃~50℃ (Output derated while the temperature is higher than 40℃)
Storage temperature	-20℃~+70℃
Relative humidity	5~95%, no condensation

COOPERATION BRAND

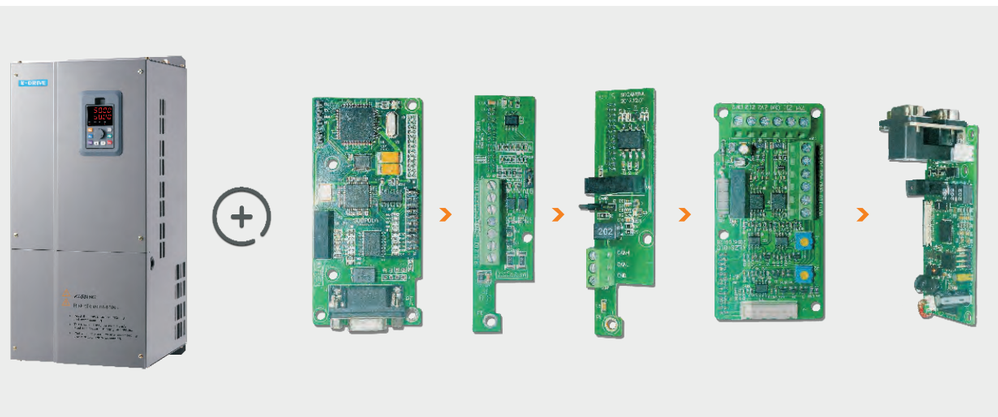
World-class components inside, stronger “bones”, healthier “body”.

EXTERNAL AND EXPANSION CARDS



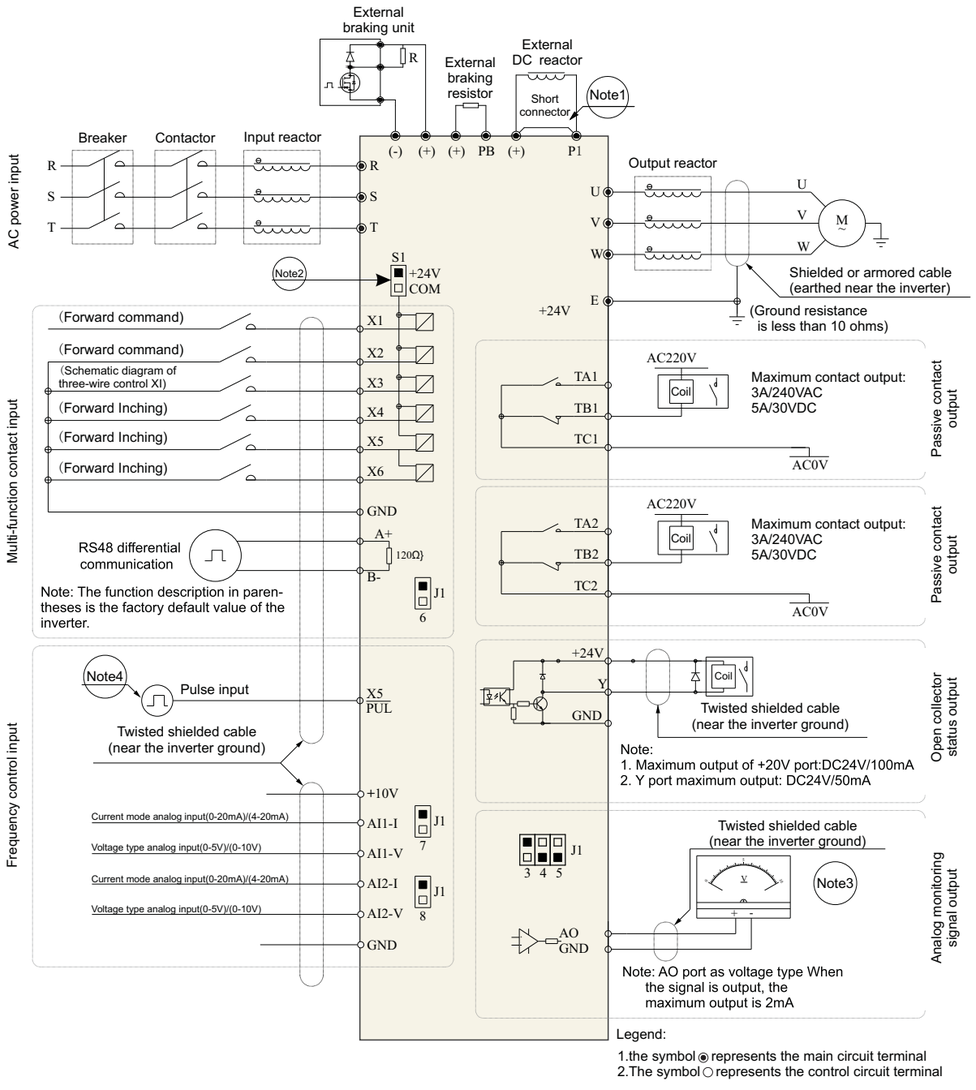
1 VFD For 4 Pumps

Various function expansion cards, IO cards, relay output cards, and various PG cards can be selected according to requirements to match various encoders, communication expansion cards, etc. Can be customized according to demand.



Model	Name	Model	Name
KD600PG01	5V differential photoelectric encoder interface card	KD600CAN	CAN communication expansion card
KD600PG02	12V open collector photoelectric encoder interface card	KD600DP	DP communication expansion card
KD600RT	Rotary encoder interface card	KD600IO	IO expansion card

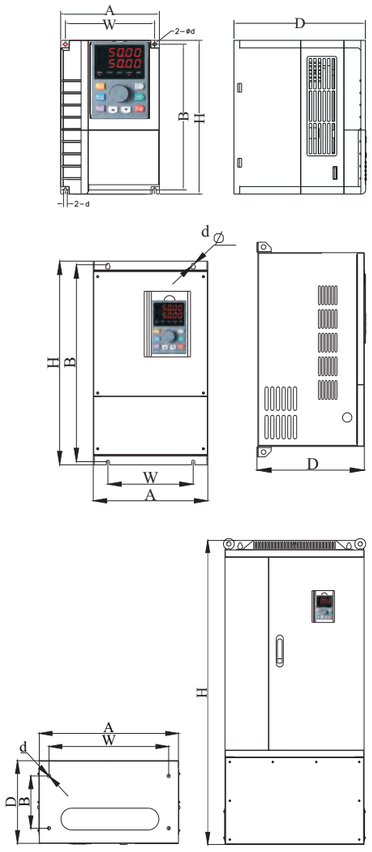
BASIC WIRING DIAGRAM



Terminal	Terminal Name	Terminal	Terminal Name
X1~X6	Digital Input X6	AI1,AI2	Analog Input X2
A,B	RS485 X1	TA1,TB1,TC1	Relay Output X2
X6	HDI (High Speed Pulse Input /Output) X1		

OUTLINE AND INSTALLING DIMENSION

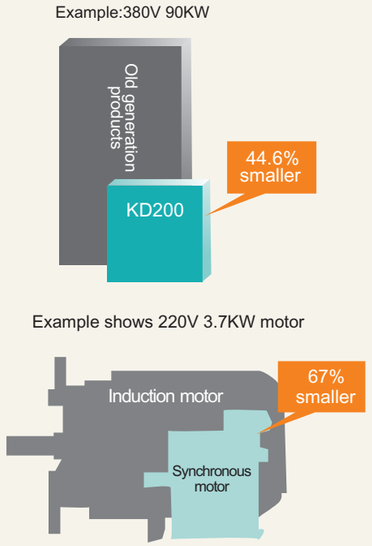
AC Drive Model	Power Capacity (KVA)	Rated Input Current(A)	Rated Output Current(A)	A (mm)	H (mm)	D (mm)	W (mm)	B (mm)	d (mm)
Input voltage: single-phase 220V Range: -15%~20%									
KD200-2S-0.4G	1.0	5.8	2.5	118	185	157	106	175	4.5
KD200-2S-0.7G	2.0	10.2	5						
KD200-2S-1.5G	2.8	14.0	7						
KD200-2S-2.2G	4.4	25.0	11	160	247	177	148	235	5.5
Input voltage: three-phase 380V Range: -15%~20%									
KD200-4T-0.7G/1.5P	1.5	3.4	2.3	118	185	157	106	175	4.5
KD200-4T-1.5G/2.2P	3.0	5.0	3.7						
KD200-4T-2.2G/4.0P	4.0	5.8	5.1						
KD200-4T-4.0G/5.5P	5.9	10.5	8.5						
KD200-4T-5.5G/7.5P	8.9	14.6	13	160	247	177	148	235	5.5
KD200-4T-7.5G/11P	11	20.5	17						
KD200-4T-11G/15P	17	26	25						
KD200-4T-15G/18.5P	21	35	32	220	321	198	205	305	5.5
KD200-4T-18.5G/22P	24	38.5	37						
KD200-4T-22G/30P	30	46.5	45						
KD200-4T-30G/37P	40	62.5	60	220	411	238	160	395	7
KD200-4T-37G/45P	57	76	75						
KD200-4T-45G/55P	69	92	91	255	453	237	190	440	7
KD200-4T-55G/75P	85	113	112	280	582	295	200	563	9
KD200-4T-75G/90P	114	157	150						
KD200-4T-90G/110P	134	180	176	300	685	323	200	667	11
KD200-4T-110G/132P	160	214	210						
KD200-4T-132G/160P	192	256	253	360	690	330	260	660	11
KD200-4T-160G/185P	231	307	304	420	840	334	150* 150	815	11
KD200-4T-185G/200P	255	333	330						
KD200-4T-200G/220P	287	380	377	540	934	390	200* 200	893	13
KD200-4T-220G/250P	311	429	426						
KD200-4T-250G/280P	355	470	465						
KD200-4T-280G/315P	396	525	520	640	1035	390	250* 250	1003	11
KD200-4T-315G/350P	439	605	600						
KD200-4T-350G/400P	479	665	660	860	1200	400	350* 350	1164	15
KD200-4T-400G/450P	530	730	725						



INSTRUCTION

- All KD200 Series Has Brake Unit Built In.
- KD200 Series 0.4KW~22KW All Has Brake Unit Built In, and 30KW~400KW, All Can Make Brake Unit Built in.
- All Series Can Changed Into 480V Series.

DRIVE DESIGN & FEATURES



Even more compact

- K-DRIVE continues to make applications even smaller by combining the compact designed drive with the light, efficient design of a synchronous motor.
- Use Side-by-Side installation for an even more compact setup.
- Finless models available.

Independent duct design

- Independent air duct design, effectively preventing dust entering inverter, causing short-circuit and other faults and improving reliability;
- Use bigger air volume and long life cooling fan effectively reduces the internal temperature rise of the inverter and ensures reliable and stable operation of inverter.

Perfect protection system

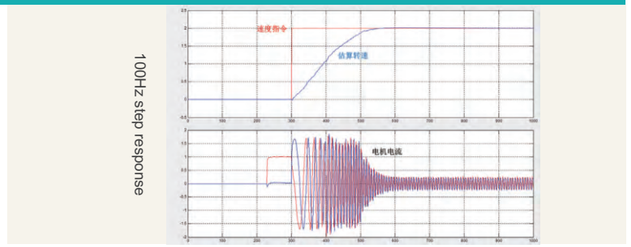
- Designed for 10 years of maintenance-free operation.
- Cooling fan, capacitors, relays, and IGBTs have been carefully selected and designed for a life expectancy up to ten years.

※ Assumes the drive is running continuously for 24 hours a day at 80% load with an ambient temperature of 40℃.

DRIVE DESIGN & FEATURES

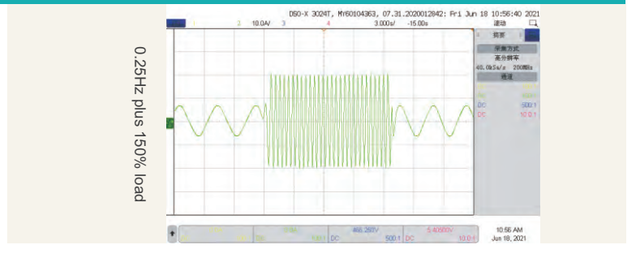
High speed accuracy and wide speed range

- **High speed accuracy and wide speed range:**
  Steady speed accuracy: ±0.5% (SVC), ±0.02% (VC);
  Speed range: 1:200 (SVC), 1:1000 (VC),
- **Heavy load overload capability:**
  110% rated current for long-term stable operation;
  150% rated current for 1 minute;
  180% rated current 10s.



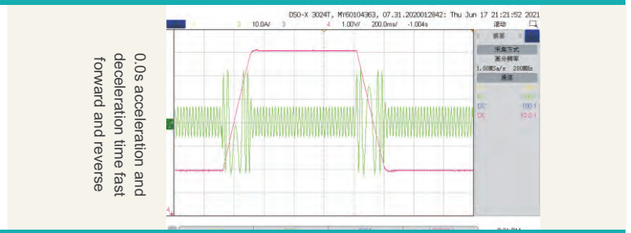
High torque in low speed, fast response

- **High torque in low speed, fast response Load capacity in low speed:**
  VF: 180%@0.50Hz ;
  SVC: 180%@0.25Hz ;
  VC: 200%@0.00Hz.



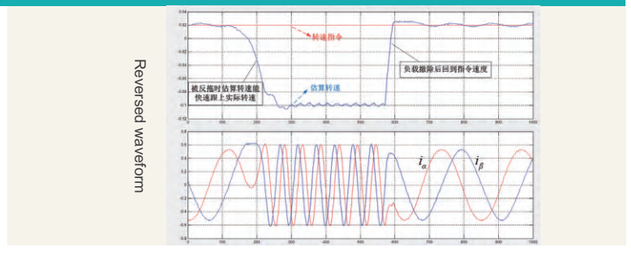
Rapid response to impact loads

- When it meets with sudden load change, inverter can quickly restore the speed, reduce the speed fluctuation, and ensure the production stability and high quality finished products.

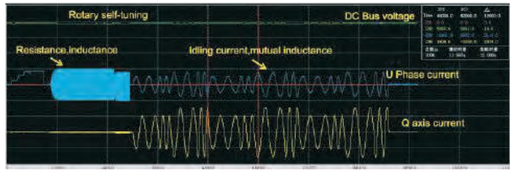


Optimized SVC algorithm, stable operation in power generation

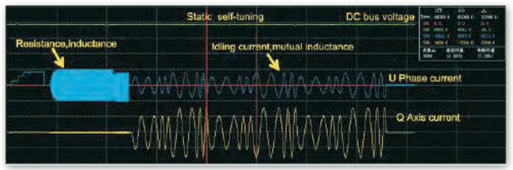
- At present, most of the inverters can not work stably under the SVC control mode (especially in the case of being reversed).
- KD200 can run very well, and it achives great convenience in some special applications (such as tension control in rewinding and winding) .



PERFORMANCE FEATURES



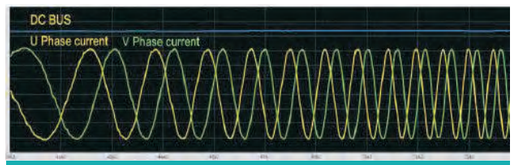
Rotary self-tuning



Fully static self-tuning

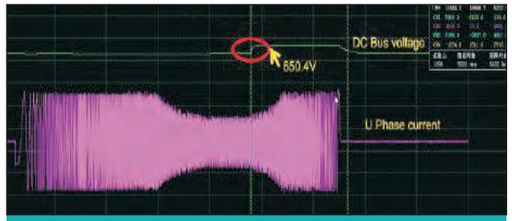
Self-tuning of motor parameters

- It could accurately acquire the motor parameters both in rotary and static self-tuning, so as to provide higher control accuracy and response speed,which is convenient and simple.
- Rotary self-tuning: Must unload the motor. Suit for applications with higher requirement of control accuracy.
- Fully static self-tuning: Leading motor tuning algorithm, can acquire the motor parameters in static status, which is compar-able to the rotary self-tuning.



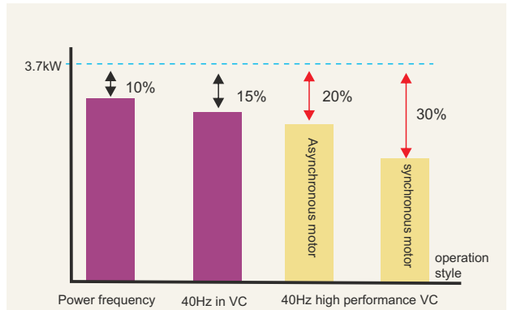
Over current suppression

The current suppression function could avoid the frequent OC fault of inverter. While the current is over the current protection point, it could continuously limit the current below the protection point, so as to protect devices, prevent the overcurrent fault caused by sudden load or interference and reduce the loss caused by.stop without reason.



Over voltage suppression

The overvoltage suppression function could prevent inverter from overvoltage fault in ACC/DEC process. During ACC/DEC, if the bus voltage of inverter reaches or exceeds the overvoltage protection point, the overvoltage suppression function could suppress the rising of bus voltage by automatically adjust the operation frequency, so as to protect the devices and avoid the overvoltage fault caused by the rising of bus voltage.



Comparison diagram of fan energy saving

Excellent energy-saving functions

Adopt the new generation of energy-saving control technology to realize the high-efficiency operation of induction motor; reduce the excitation current according to the load current, and automatically adjust according to the loading condition; improve the motor efficiency at most; reduce the motor consumption and energy consumption. 30% of AM&PMSM adopt the VC mode to drive PMSM and the energy utilization could increased by more than 10%.

APPLICATIONS

Printing Dyeiing

Wire Drawing Mchine

Water Supply

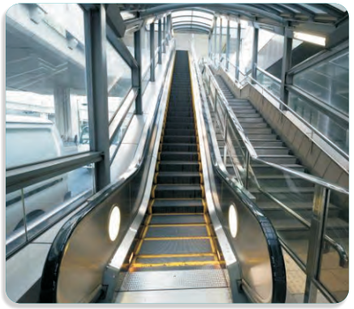
Packing Machiine

Industrial Washing Machine

Construction Hoist

Ball Mill

Air Compressor

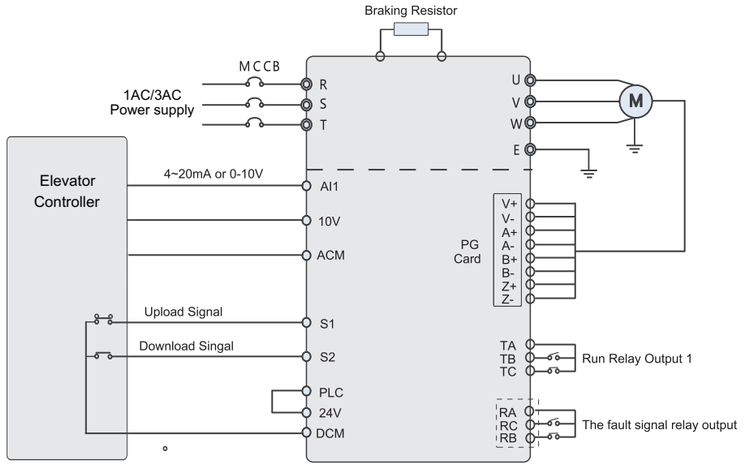


Escalator

KD200E （Elevator & Lift Series）

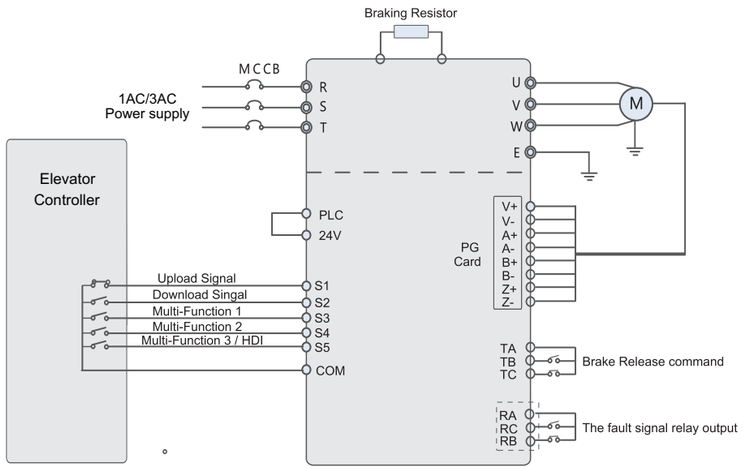
Analog speed given

KD200E supports two kinds of speed given: Analog speed given and multi-stage speed given;
Life controller sends out speed command curve, inverter get speed given command through the analog signal.



Multi-stage speed given

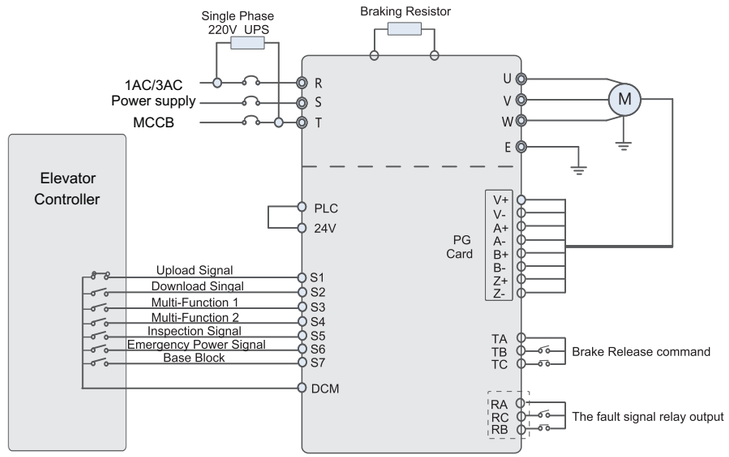
Elevator controller provide speed command, after receiving the command, inverter will automaticlly calculate S curve accelera-tion and deceleration speed.



KD200E （Elevator & Lift Series）

Built-in Emergency leveling mode

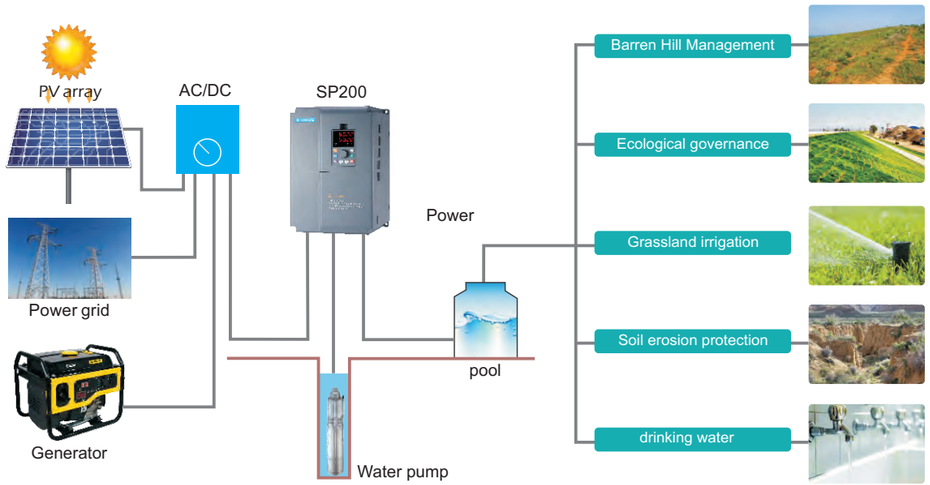
In the using of eleva tor, if the power is cut suddenly, passengers may be kept in the cage. KD600E series inverters can support emergency UPS power running, Both the main circuit of KD600E and the working are powered by 220V UPS.



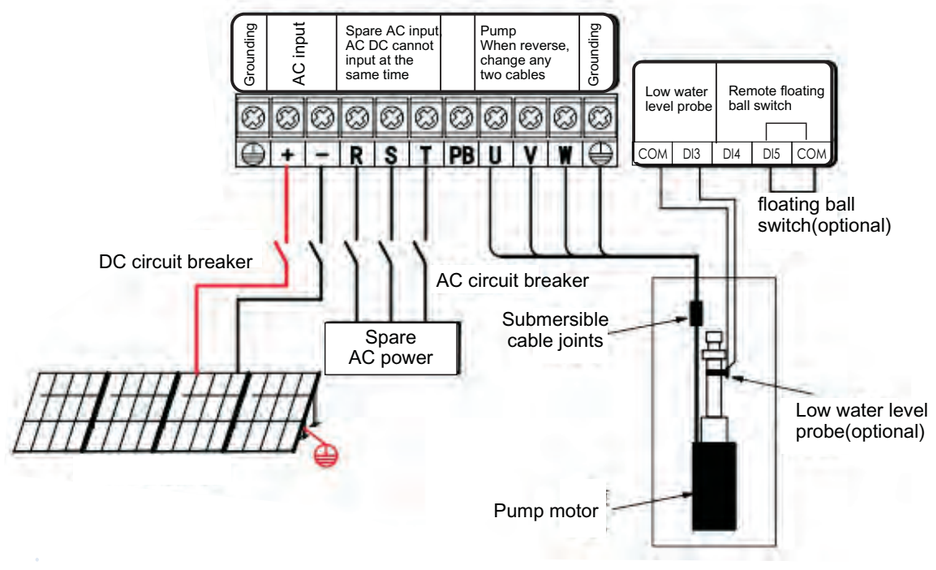
SP200 （Off Grid Solar Series）

SP200 series inverters for photovoltaic pumps use a new hardware technology platform and an optimized global MPPT algorithm to maximize the efficiency of equipment conversion and output communication.

Applicable to all kinds of constant water pump; support DC and AC input. When there is no solar energy, the controller can be switched to a single-phase or three-phase AC input such as a generator or utility power.



Three phase 380 VAC Alternate AC power supply, for example, wiring diagram such as following:



SP200 （Off Grid Solar Series）

Basic Technical Specification

Items	Specifications
Recommended MPPT voltage range	3 AC 220V / 130~380V DC (Recommend 330V DC) 3 AC 380V / 330~780V DC (Recommend 560V DC)
MPPT efficiency	99.9%
Rated output voltage	3AC 220V/ 380V
Output frequency range	0~60Hz
Cooling method	Air cooling
Protection degree	IP20/54

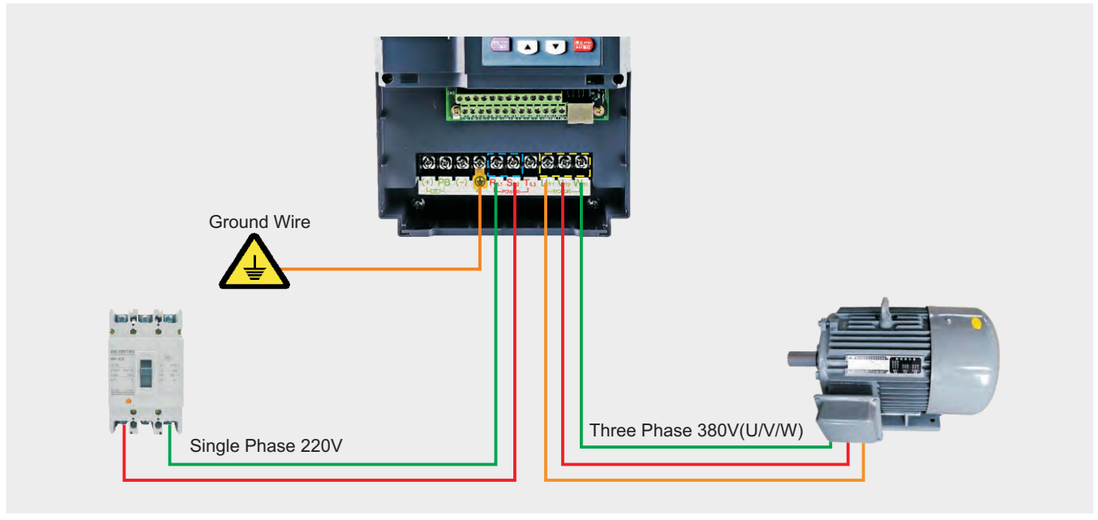
Model (380V)	Max DC input current (A)	Rated output current (A)	Applicable water pump (KW)
SP200-4T0007G/0015P	4.2	2.5	0.75
SP200-4T0015G/0022P	6.1	4.0	1.5
SP200-4T0022G/0037P	7.1	6.0	2.2
SP200-4T0037G/0055P	16.5	9.6	3.7
SP200-4T0055G/0075P	23.9	14.0	5.5
SP200-4T0075G/0110P	30.6	17.0	7.5
SP200-4T0110G/0150P	39.2	25	11
SP200-4T0150G/0185P	49	32	15

Analysis For Systems

System	Type Benefits	Disadvantages
Solar-Powered Pumping	Low maintenance; No fuel costs; Easy Installation; Reliability unattended operation; Portable;	Higher Initial Costs;Variable water delivery dependingon sun intensity; Higher return on investment depending on the insolation of installation.
Diesel-powered Pumping	Moderate initial Costs; Movable or Portable; Easy Installation; Requires certain system Experience;	Requires regular maintenance and replacement of diesel; Inadequate maintenance will reduce life expectancy; the higher cost of fuel and long-term fuel cost trend is upward; Environmental pollution of noise, smoke,and waste oil; Requires an understanding of installation enviroment.
Wind-Powered Pumping	Long life Span; Lower Initial Costs; No fuel costs	High maintenance and replacement cost; Difficult to purchase the replace components locally; Greatly influenced by season; Requires special tools to install; High labor costs; Only work when wind conditions are adequate.
Ram Pumping	Lower Initial Costs; Low maintenance costs;No fuel costs; Easy installation;Reliable; Simple;	Rushing water is required.
Hauling Water	Low Initial Costs; Excellent Mobility;	Highest labor cost.

KD200-2S/4T （220V Input, 380V Output Series）

KD200-2S/2S/4T Series is for some solutions which need 220V, single phase input, but need 380V three phase output for AC Motors, General ways to solve out this problem is to add a transformer behind 220V VFD, and then connect to motor, but this is very trouble, and costing is very high, and now our KD200-2S/2S/4T series can solve out this solution without any problem, detailed wire diagram is as follows.



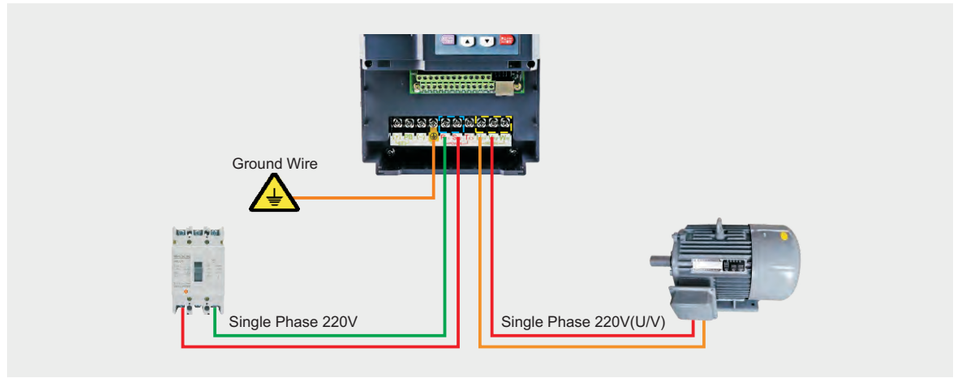
Model List

Model	Motor (KW)	Rated Intput Current (A)	Rated Ontput Current (A)
KD200-2S/4T-0.75KW/1.5P	0.75KW/1HP	8.2	2.1
KD200-2S/4T-1.5KW/2.2P	1.5KW/2HP	14.0	3.8
KD200-2S/4T-2.2KW/3.7P	2.2KW/3HP	23.0	5.1
KD200-2S/4T-3.7KW/5.5P	3.7KW/5HP	27	9.0
KD200-2S/4T-5.5KW/7.5P	5.5KW/7.5HP	39	13.0
KD200-2S/4T-7.5KW/11P	7.5KW/10HP	53	17.0
KD200-2S/4T-11KW/15P	11KW/15HP	77	25.0
KD200-2S/4T-15KW/18.5P	15KW/20HP	99	32.0
KD200-2S/4T-18.5KW/22P	18.5KW/25HP	121	37.0
KD200-2S/4T-22KW/30P	22KW/30HP	145	45.0
KD200-2S/4T-30KW/37.5P	30KW/40HP	196	60.0
KD200-2S/4T-37.5KW/45P	37.5KW/50HP	247	75.0
KD200-2S/4T-45KW/55P	45KW/60HP	306	91.0
KD200-2S/4T-55KW/75P	55KW/70HP	366	112.0
KD200-2S/4T-75KW/90P	75KW/100HP	481	150.0

KD200-2SS （Single Phase Output Series）

KD200-2SS/4TS Series is for some solutions which need 220V, single phase input, and 0~220V single phase output, Or 380V three phase input, and 0~380V Single phase out series, since this series is abnormal in the market,so all of them are made as un-stardard,which the same basic function as normal KD200, the wire diagram and current list is as follows.

220V Single Phase Output Series



380V Single Phase Output Series

Model List

Model	Motor (KW)	Rated Intput Current (A)	Rated Ontput Current (A)
KD200-2SS/4T-0.75KW/1.5P	0.75KW/1HP	9.2	8.3
KD200-2SS/4T-1.5KW/2.2P	1.5KW/2HP	14.0	12.5
KD200-2SS/4T-2.2KW/3.7P	2.2KW/3HP	20.0	18.3
KD200-2SS/4T-3.7KW/5.5P	3.7KW/5HP	34	30
KD200-2SS/4T-5.5KW/7.5P	5.5KW/7.5HP	48	43.8