

SHENZHEN KEWO ELECTRIC TECHNOLOGY CO., LTD

About us



KEWO is a Chinese famous manufacturer of AC drives, solar pump inverter, also focus on automation solution providing and renewable energy technologies offering. The company employ about 200 people and set up service centers in approximately 25 provinces in China.

KEWO AC DRIVES,

VARIABLE FREQUENCY DRIVE,

FREQUENCY INVERTER



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Company introduction:

KEWO ELECTRIC TECHNOLOGY CO., LTD. (hereinafter called KEWO) is a professional manufacturer of kinds of AC drives, variable frequency inverter, soft start, and solar pump inverter, etc. We are not only focus on designing, manufacturing, sales and after sales service for above mentioned products, but also providing custom made automation solution and renewable energy technologies.

There are more than 150 staffs working in our factor, 60% of them are engineers. Thanks to our great R&D team hardworking and innovation, we mastered core and leading vector control technology for PMSM and IM.

We also introduced and absorbed latest servo motor control and motor control technology from abroad, that help us keep top position among Chinese manufactures. We have established 2 modernization production lines, digital quality control system, code bar tracking system and EPR management system, etc. And every piece of KEWO products have been tested with full load to ensure 100% good quality. Quality begins and ends with each person in our company.

KEWO products is comprised of high level AC drives, variable speed drive, frequency inverter, solar pump drive with DC and AC input, etc. These products are widely using in industrial automation, cement, textile, metallurgy, HVAC, oil & gas, water treatment, chemical , machine tools, hoisting, agriculture, farming, irrigation...



KEWO factory



Reception room



Production line

KEWO Products Range: (VSD, Frequency Inverter, Servo drive, soft starter, solar pump Inverter)



AD100 (VFD)



AD350(VFD)



AD800(Vector Control Inverter)



Sealed VFD



AD850Z/T(Servo Drive)



Solar Pump Inverter



Soft Starters

KEWO AD DRIVES BRIEF INTRODUCTION

| PRODUCTS | SPECIFICATION | PICTURES | BRIEF INTRODUCTION |
|--|--|---|---|
| AD800 Series High Performance Vector Control Drive/ Variable Speed Drive | 1Ph, 220V, 0.4kw to 2.2kw. 3Ph, 220V, 0.75kw to 75kw 3Ph, 380V/660V/1140V, 0.75 to 630kw. |  | Drive for PMSM and IM Accuracy speed and torque control for motor, multiple functions, good protection; Sensorless vector control, sensor vector control with PG, VF control, 180% rated starting torque, big allowance IGBT module , |
| AD100 Mini Economic AC Drive | 1Phase, 220V, 0.4 to 1.5kw |  | Adopt software platform as same as AD800, easy using and powerful function Mini and Economic type, Using IPM of iGBT |
| AD350 Mini Vector Control Drive | 1 Ph 220V,0.4 to 2.2kw, 3 Ph,380V, 0.75 to 3.7kw |  | Mini drive with compact design Vector control and VF using the same software platform as AD800; IGBT module to ensure good quality, rich functions |
| Ad800S Frequency Inverter For PMSM (servo drive) | 1Ph, 220V, 0.4kw to 2.2kw. 3Ph, 220V, 0.75kw to 75kw 3Ph, 380V/660V/1140V, 0.75 to 630kw. |  | Enhanced AD800 version, special for PMSM servo motor with sensorless or sensor control, Multiple protection function Rich functions, and flexible using PG card built in controller board |
| AS850 Z Servo Drive For PMSM Of IMM. | 3 phase, 380V±15%, 5.5kw to 110kw |  | Driving f or permanent magnet synchronous motor (PMSM) for energy saving. High energy saving, high power factor, quick response and high accuracy control, etc. |
| AS850T Spindle Servo Drive For PMSM And IM | 3 phase, 380V±15%, 2.2kw to 55kw |  | Spindle servo drive for CNC, machining center, packing, textile, etc. high accuracy speed, torque and position control through close loop servo control |
| SD800 Seal Frequency Inverter (IP54) | 220V (single-phase power) 0.4-2.2kW 380V (three-phase power) 0.75-30kW |  | sealed frequency inverter is enhanced version of AD800 series frequency inverter, built in with IP54 protection grade. With excellent in anti-dust, water proof, anti-grease and anti-corrosion properties |

AD800 Series High Performance Vector Control Drive

Variable Frequency Drive (VFD)

When you need simplicity and intelligence in one self-contained solution, The AD series covers a wide range of options, ideal for variable and constant torque applications from pumps and fans to conveyors and mixers as well as many other variable and constant torque applications. Enjoy plug and play convenience right from the start.

- Compatible for IM and PMSM
- Excellent quick response with vector control
- High starting torque even under low speed.
- Rapid current limit, up to 20 kinds protection function.
- Latest generation Infineon IGBT modules using



When you need simplicity and intelligence in one self-contained solution, The AD800 covers a wide range of options. Ideal for variable and constant torque applications from pumps and fans to conveyors and mixers as well as many other variable and constant torque applications. Enjoy plug and play convenience right from the start. No customizing or special product engineering required.

Excellent unique ventilation design with powerful big fans.

Specification: (AD100, AD350, AD800, AD800S)

Single phase, 220V, 0.4kw to 2.2kw.

Three phase, 220V, 0.75kw to 75kw

Three phase, 380V/660V/1140V, 0.75 to 630kw.

Key product feature

- High performance flux vector control for IM and PMSM (AD800S can compatible PMSM)
- Excellent quick response with vector control
- Torque limit for machine safety protection
- Latest generation Infineon IGBT modules using
- High starting torque even under low speed.
- Rapid current limit, up to 20 kinds protection function.

Models, input current, output current.

| Model | Input voltage | 220V (1/2T) | 380V (4T) | 660V (6T) |
|---------------|---------------|-------------|-----------|-----------|
| AD100-2S0.4G | 0.4 | 2.5 | | |
| AD350-4T0.75 | 0.75 | 4 | 2.3 | |
| AD350-4T1.5G | 1.5 | 7 | 3.7 | |
| AD350-4T2.2G | 2.2 | 10 | 5.0 | |
| AD350-4T3.7G | 3.7 | 16 | 8.5 | |
| AD800-4T5.5G/ | 5.5 | 20 | 13 | |
| AD800-4T7.5G/ | 7.5 | 30 | 17 | 10 |
| AD800-4T11G/ | 11 | 42 | 25 | 15 |
| AD800-4T15G/ | 15 | 55 | 32 | 18 |
| AD800-4T18.5 | 18.5 | 70 | 38 | 22 |
| AD800-4T22G/ | 22 | 80 | 45 | 28 |
| AD800-4T30G/ | 30 | 110 | 60 | 35 |
| AD800-4T37G/ | 37 | 130 | 75 | 45 |
| AD800-4T45G/ | 45 | 160 | 90 | 52 |
| AD800-4T55G/ | 55 | 200 | 110 | 63 |
| AD800-4T75G/ | 75 | 260 | 150 | 86 |
| AD800-4T93G/ | 93 | 320 | 180 | 98 |
| AD800-4T110G | 110 | 380 | 210 | 121 |
| AD800-4T132G | 132 | 420 | 250 | 150 |
| AD800-4T160G | 160 | 550 | 310 | 175 |
| AD800-4T185G | 185 | 600 | 340 | 198 |
| AD800-4T200G | 200 | 660 | 380 | 218 |
| AD800-4T220G | 220 | 720 | 415 | 235 |
| AD800-4T250G | 250 | | 470 | 270 |
| AD800-4T280G | 280 | | 510 | 330 |
| AD800-4T315G | 315 | | 600 | 345 |
| AD800-4T355G | 355 | | 670 | 380 |
| AD800-4T400G | 400 | | 750 | 430 |
| AD800-4T500G | 500 | | 860 | 540 |
| AD800-4T560G | 560 | | 990 | 600 |

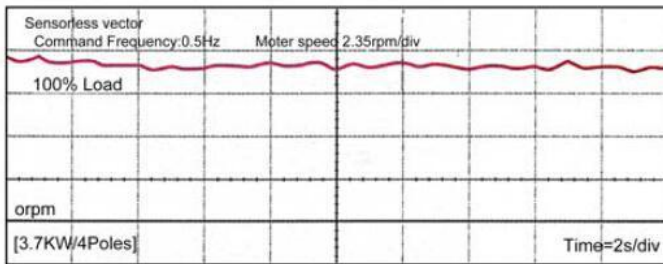
Features of products.

It has V/F, OLV(open loop vector control), CLV (close loop vector control), Compatible with variety of encoder such as collector, differential / rotary transformer .

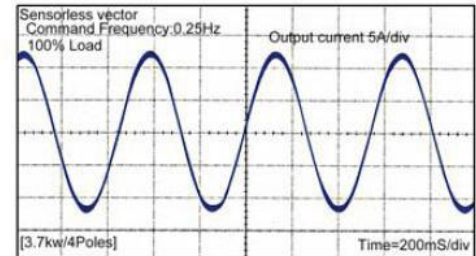
1). Wide speed control range

a). Sensorless open loop vector (OLV) control: 0.5 to 400Hz (1:100/50Hz datum point)

Sensorless without PG mode: 0.5 to 400Hz (1:100/50Hz)



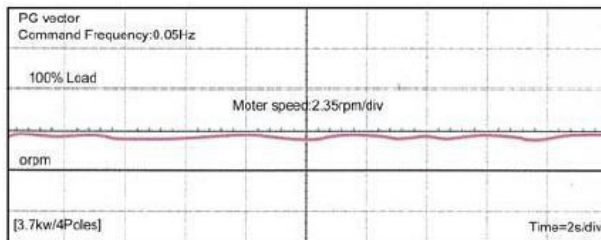
The speed waveform with 100% load under 0.25Hz.



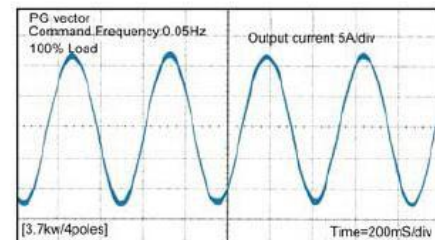
The current waveform with 100% load under 0.25Hz

b) . Sensor with PG card: 0.5 to 400Hz (1:100/50Hz datum point) Good current waveform

PG sensor vector control mode: 0,5 to 400Hz (1:100/50Hz datum)



Speed wave form under 0.25Hz with full load in sensor close loop mode



Current wave form under 0.25Hz with full load in sensor close loop mode

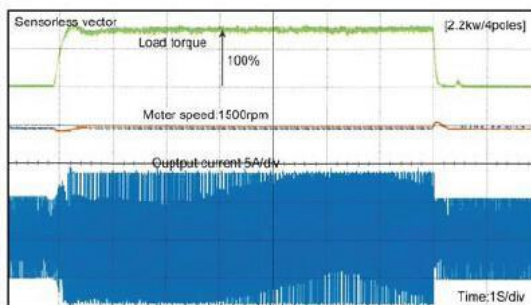
2). Response speed improving

Adopting high speed 32 bit DSP to get the high speed response of frequency inverter.

a.) The response 100rad/s, precision $\pm 0.5\%$ in sensorless open loop vector control mode.

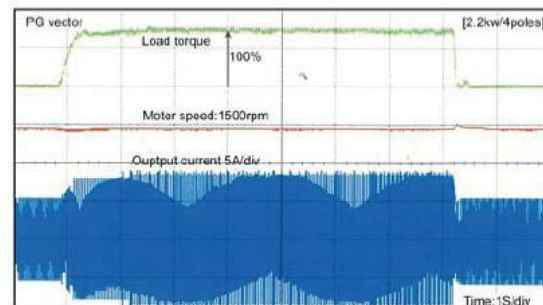
b.). The response 250rad/s, precision $\pm 0.01\%$ in sensor close loop vector control mode

Sensorless vector control mode: response 100 rad/s, accuracy $\pm 0.5\%$.



Impact load response characteristic (Sensorless without PG)

Sensor vector control mode: response 250rad/s, accuracy $\pm 0.01\%$

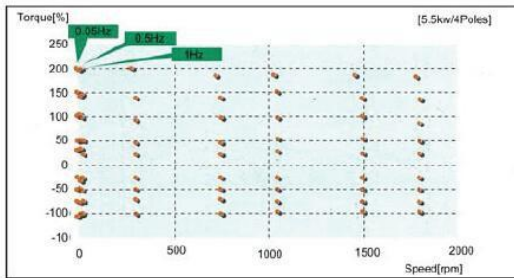


Impact load response characteristic (Sensorless with PG)

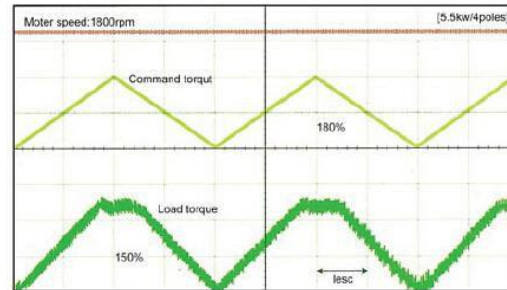
3). High torque output under low speed to meet some big inertia load conditions

High torque under low speed achievement.

Adopting advanced current vector control technology and motor parameters detecting to make high torque under low speed is available.



Torque characteristic

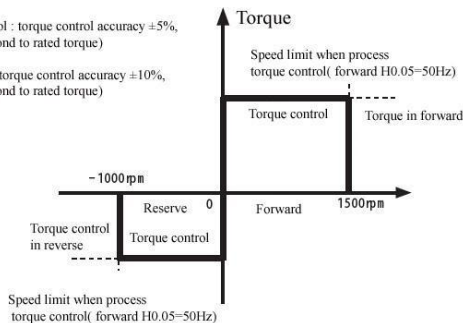


Accuracy torque limit

4). Torque control in OLV and CLV

Without PG open loop vector control : torque control accuracy $\pm 5\%$, torque control range: 1:50 (correspond to rated torque)

With PG close loop vector control: torque control accuracy $\pm 10\%$, torque control range: 1:20 (correspond to rated torque)



Speed limit in torque control mode

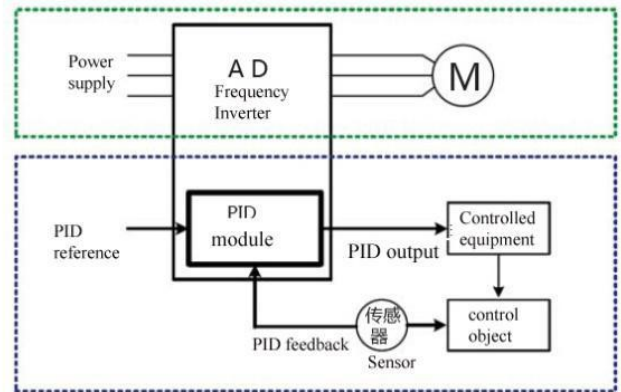
5). Powerful PID function

Possible to set PID1 and PID2 combination function, free switch between two PID parameters.

PID module can be used for external unit using with professional PID control.

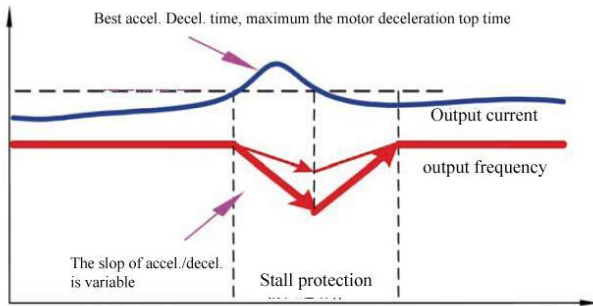
Flexible PID control with sleep mode, configure waking up frequency, sleep frequency, that is very easy using for water supply.

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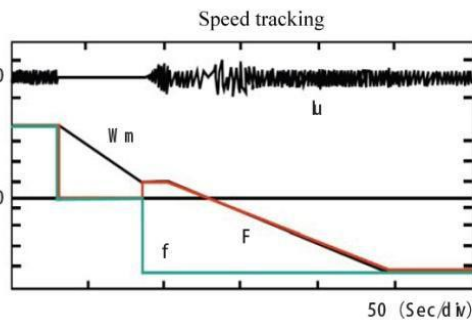
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Stall protection illustrations



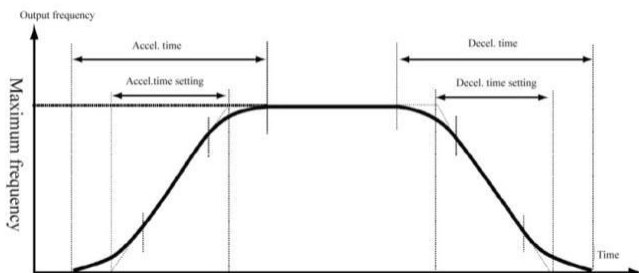
7). Speed tracking restart function

Detect motor speed and rotation direction automatically, no any trip during start even in reverse running status.

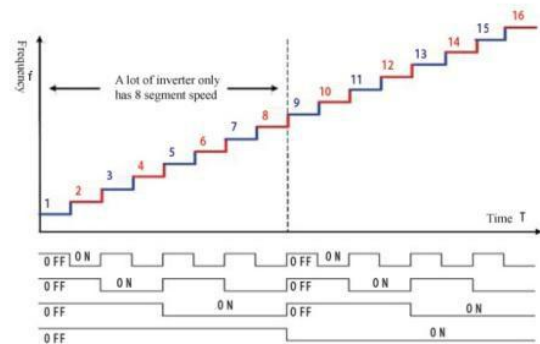
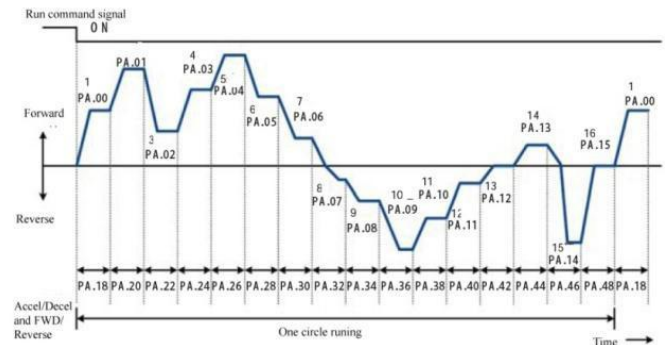


8). S curve function

S curve can improving the impact during the start and stop processing, it is very useful in crane, elevator application

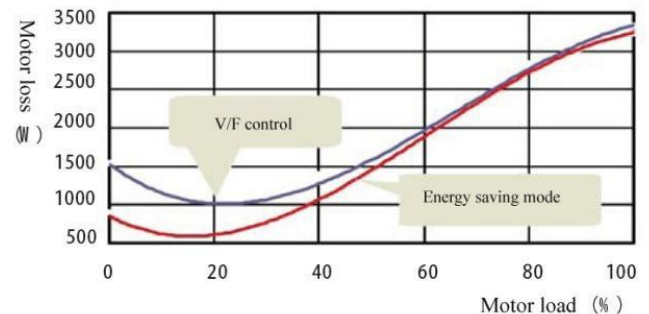


9).16 segment speed circle running, easy to configure.



10). Advanced energy saving technology

AD800 series inverter can detect the load status to control the output voltage and power factor to make motor work in high efficient mode.



Technical specification

| Items | | Specification | | |
|-----------------|--|---|-------------|---------------------------|
| Control mode | Control mode | SVC in open loop | V/F control | Close loop vector control |
| | Starting torque | 0.5Hz 180% | 0.5Hz 150% | 0.00Hz 180% |
| | Speed adjust range | 1:100 | 1:100 | 1:1000 |
| | speed stabilizing precision | | | ±0.02% |
| | Torque precision | NO | NO | ±5% |
| | Motor type | General induction motor, permanent magnet synchronous motor* | | |
| Function design | Highest frequency | General vector control :400Hz V/f control: 4000Hz | | |
| | frequency resolution | Digital setting: 0.01Hz analog setting: maximum×0.025% | | |
| | carrier frequency | 0.5K ~ 16KHz, the carrier frequency can be adjust by temperature automatically | | |
| | Frequency reference setting method | Digital of Control panel, analog AI1, AI2, potentiometer of control panel, UP/DN control, communication, PLC pulse frequency | | |
| | Accel./decel. characteristic | Linear curve and S curve accel. /decel. mode, range of time: 0.0 to 65000S. | | |
| | V/F curve | 3 mode: linear, multiple points, N Power | | |
| | V/F separation | 2 times separation: totally separation, half separation | | |
| | DC braking | DC braking frequency: 0.0 to 300Hz, DC braking current: 0.0% to 100% | | |
| | Braking unit | Built in braking unit up to 15kw, optional is 18.5kw to 75kw, external built in for above 93kw. | | |
| | Jog function | Job frequency range: 0.0 to 50.0Hz, the accel. and decel. time of Jog | | |
| | Configuration PID | Easy to perform pressure, flow, temperature close loop control | | |
| | PLC multiple speed | To achieve 16 segment speed running through built in PLC or terminal control | | |
| | Common Dc bus * | Multiple inverters use one DC bus for energy balance. | | |
| | Auto voltage regulation (AVR) | Enable to keep output voltage constant when grid fluctuation | | |
| | Over load tolerance capability | G type model: 150% rated current for 60s, 180% rated current for 2s, P type Model: 120% rated current for 60s, 150% rated current for 3s. | | |
| | tall control when over current, over voltage | Carry out limiting automation for running current, voltage to prevent over current, over voltage frequently | | |
| | Fast current limit function | minimize the IGBT module broken to protect the inverter, maximum reduce the over current fault. | | |
| | Torque limit and torque control | "Excavator" characteristics , torque limit automatically during motor running. Torque control is available in close loop vector control mode. | | |
| features | friendly interface | Display Hello when power on. | | |
| | Multiple function key JOG | It can set for Forward Jog, reverse Jog, forward/reverse switch | | |

| Items | | Specification |
|-------------|----------------------------|--|
| | button | |
| | Timing control function | A total running time and total running time calculating |
| | 2 group motor parameters | To achieve two motor switching freely, control mode is selectable |
| | Motor over heat protection | Accepting motor temperature sensor signal input via AI1 terminals. |
| | Multiple kinds encoder * | Compatible collector, difference, and rotary transformer Encoder. |
| | Command source | Control panel, control terminals, series communication, switch freely. |
| | Frequency source | Digital setting, analog current/voltage, pulse setting, serial communication, main and auxiliary combination. |
| Environment | Protection function | Short circuit detect after power on, input/output phase missing, over voltage, over current, under voltage, over heat, over load protection. |
| | Application site | Indoor, free of exposure to sunlight, no dusty, no corrosive, no inflammable gas, no oil and water vapor, and water dipping |
| | Altitude | Lower 1000m |
| | environment temperature | -10°C ~+40°C, power derate for 40 ~ 50°C, rated current derated 1% for 1°C increasing. |
| | humidity | Less than 95%, no water condense. |
| | storage | -40~+70°C |

*:AD350 have no this function
AD800 AC Drive models.



1.5kw to 11kw

15kw to 93kw

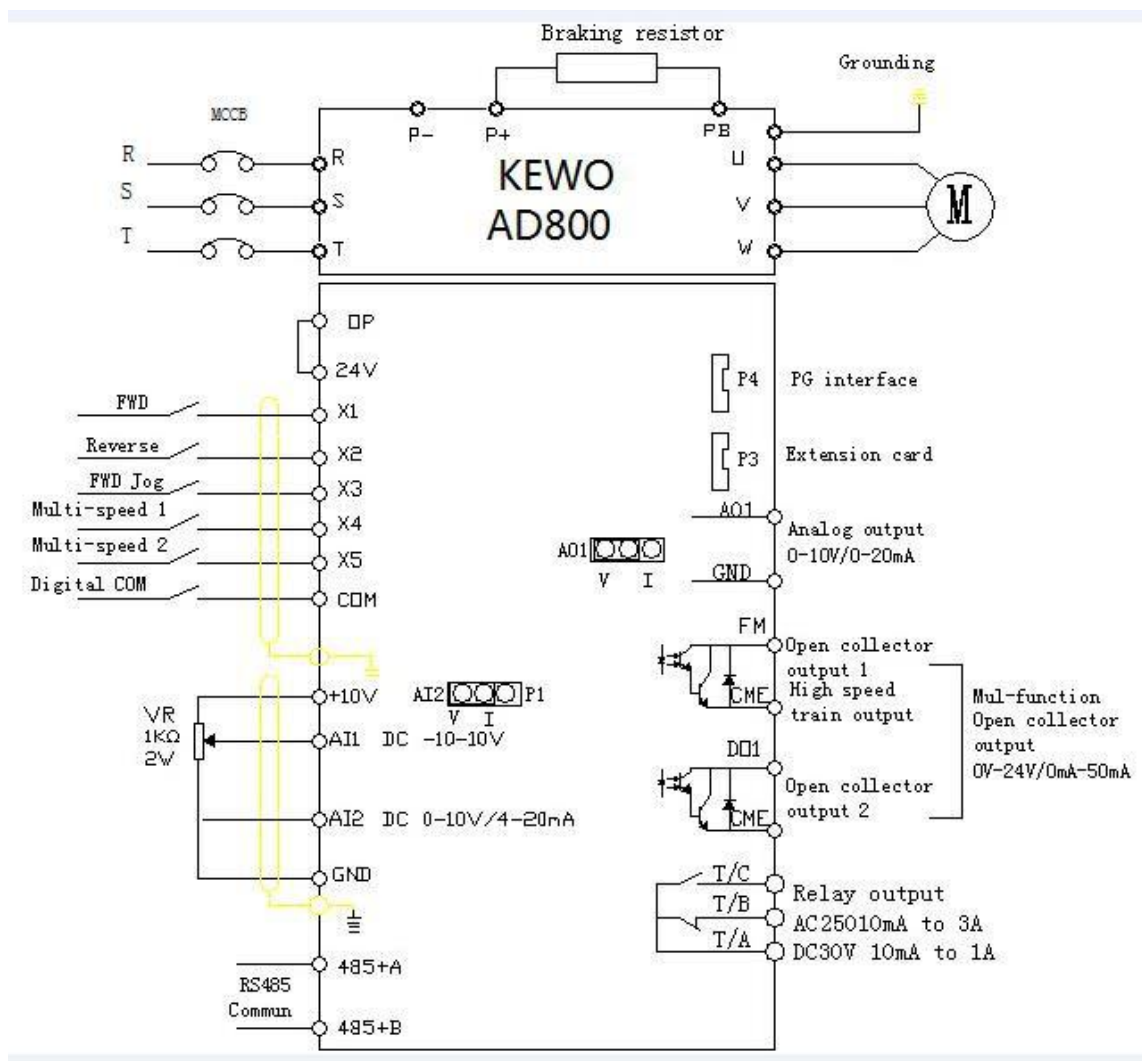
above 110kw

Wiring diagram of AD800.

1. PG cards external built if need, support ABZ optical encoder, ABZ differential input, Rotating transformer encoder...)

2. Built in following functions terminals.

- It has 5 digital I/O input, compatible with sink and source way. (NPN/PNN)
- 2 Analog input, support -10V to 10V, 0-10V, 0/4 to 20mA.
- 1 Analog output (0-10V/0-20mA can be selected)
- 2 collector output (FM and CME support the high pulse output).
- 1 relay output. (if need two relays please built external card)
- Rs485 communication card.(485+, 485-)
- Extension card is available. (4 digital terminals, 24V power supply, OP (external power supply terminal, 1 analog output , and 1 relay output)



AD800 series inverter connection diagram

AD800 Inverter Data sheet.

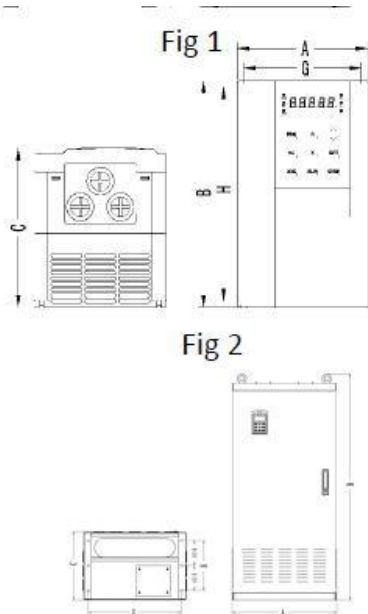


Fig 3

| AD800 series 3 PH, 220V | | | | | | | |
|-------------------------|-----|-----|-----|-----|------|----|-------|
| AD800-2T0.75GB | | | | | | | |
| AD800-2T1.5GB | 117 | 135 | 125 | 155 | 130 | M4 | Fig.2 |
| AD800-2T2.2GB | | | | | | | |
| AD800-2T3.7GB | 140 | 260 | 160 | 270 | 165 | M5 | Fig.2 |
| AD800-2T5.5GB | | | | | | | |
| AD800-2T7.5GB | 140 | 350 | 210 | 370 | 178 | M6 | Fig.2 |
| AD800-2T11G | | | | | | | |
| AD800-2T15G | 200 | 410 | 270 | 430 | 225 | M6 | Fig.2 |
| AD800-2T18.5G | | | | | | | |
| AD800-2T22G | 200 | 500 | 290 | 520 | 225 | M8 | Fig.2 |
| AD800-2T30G | | | | | | | |
| AD800-2T37G | 250 | 580 | 352 | 600 | 285 | M8 | Fig.2 |
| AD800-2T45G | | | | | | | |
| D800-2T55G | 300 | 700 | 458 | 720 | 310- | M8 | Fig.2 |
| AD800-2T75G | | | | | | | |

3 PH 380V/440V

| AC drive models | Install lot mm | | Dimension mm | | | Bolt mm | Reference. |
|--|----------------|-----|--------------|-----|-----|---------|------------|
| | G | H | A | B | C | | |
| AD800-4T1.5GB | 117 | 210 | 130 | 220 | 165 | M4 | Fig2 |
| AD800-4T2.2GB | | | | | | | |
| AD800-4T3.7GB AD800-4T5.5PB | | | | | | | |
| AD800-4T5.5GB AD800-4T7.5PB AD800-4T7.5GB AD800-4T11PB | 140 | 260 | 160 | 270 | 190 | M5 | Fig2 |
| AD800-4T11GB AD800-4T15PB AD800-4T15GB AD800-4T18.5PB | 140 | 355 | 210 | 370 | 190 | M6 | Fig2 |
| AD800-4T18.5G AD800-4T22P AD800-4T22G AD800-4T30P AD800-4T30G AD800-4T37P | 200 | 410 | 270 | 430 | 235 | M6 | Fig2 |
| AD800-4T37G AD800-4T45P | 200 | 500 | 290 | 520 | 265 | M8 | Fig2 |
| AD800-4T45G AD800-4T55P AD800-4T55G AD800-4T75P | 250 | 560 | 352 | 580 | 295 | M8 | Fig2 |

| AC drive models | Install lot mm | | Dimension mm | | | Bolt mm | Reference. |
|--|----------------|-----|--------------|------|-----|---------|------------|
| | G | H | A | B | C | | |
| AD800-4T75G AD800-4T93P AD800-4T93G AD800-4T110P AD800-4T110G AD800-4T132P | 300 | 700 | 458 | 720 | 320 | M8 | Fig2 |
| AD800-4T132G AD800-4T160P | 400 | 700 | 508 | 720 | 360 | M8 | Fig 2 |
| AD800-4T160G-C AD800-4T185P-C | | | | | | | |
| AD800-4T160G AD800-4T185P AD800-4T185G AD800-4T200P | 490 | -- | 550 | 1160 | 370 | M12 | Fig 2 |
| AD800-4T200G AD800-4T220P AD800-4T220G AD800-4T250P | 530 | -- | 590 | 1270 | 390 | M12 | Fig 3 |
| AD800-4T250G AD800-4T280P AD800-4T280G AD800-4T315P AD800-4T315G AD800-4T355P | 660 | -- | 710 | 1450 | 410 | M12 | Fig 3 |
| AD800-4T355G AD800-4T400P AD800-4T400G AD800-4T450P | 770 | -- | 832 | 1850 | 410 | M16 | Fig 3 |

Application.

AD series high performance inverter better being used in various application with high accuracy speed control quick torque response and starting torque.

Textile: P-jump Winders, Extruders, Tufting Machines, spinning machine

Packaging: In-feed / Out-feed, Case Packing, Bottling & Canning, Carton Manufacturing. Beverage packing

Plastics & Rubber: Extruders, Blow Molding, Thermoforming, Injection Molding.

Pulp & Paper: Paper Machines, Debarkers, Winders, Saw Mills

Converting: Coaters ,Laminators ,Slitters ,
Flying Cutters

Air Handling: Supply and Return Fans ,Cooling Towers ,Spray Booths ,Dryers

Oil & Gas: Top Drives ,Pumpjacks, Down-hole Pumping Centrifuges

Material Handling: Conveyors, Sortation,
Palletizers, Coil Winding

Metals: Stamping / Punch Press, Wind /Unwind, Cut-to-length,cable drawing.
Wire Draw

Construction Materials: Kilns, Planers, Flying Cutoff, Mixers

Laundry: Dryers, Extractors, Folders, Washers

Food & Beverage: Conveyors, Fillers, Mixers, Centrifuges

Automotive: Stamping, Test Stands, Indexing, Metal Cutting

Construction crane, hoist, lifting,



SD800 Sealed Frequency Inverter (IP54 water proof, dust proof)

Brief Introduction:

This SD800 sealed frequency inverter is enhanced version of AD800 series frequency inverter, built in with IP54 protection grade. With excellent in anti-dust, water proof, anti-grease and anti-corrosion properties, the SD800 sealed inverter is widely used in printing and dyeing, textile, cement, coal, ceramics industries and other harsh industrial conditions with heavy dust, moisture and high temperature.

Specification, voltage rating, power rating

220V (single-phase power) 0.4-2.2kW

380V (three-phase power) 0.75-30kW



SD800 Sealed Frequency Inverter

Key product features.

- High performance flux vector control for IM and PMSM
- Excellent quick response with vector control
- High starting torque even under low speed.
- Torque limit for machine safety protection
- Rapid current limit, up to 20 kinds protection function.
- Latest generation Infineon IGBT modules using

Outstanding motor control performance

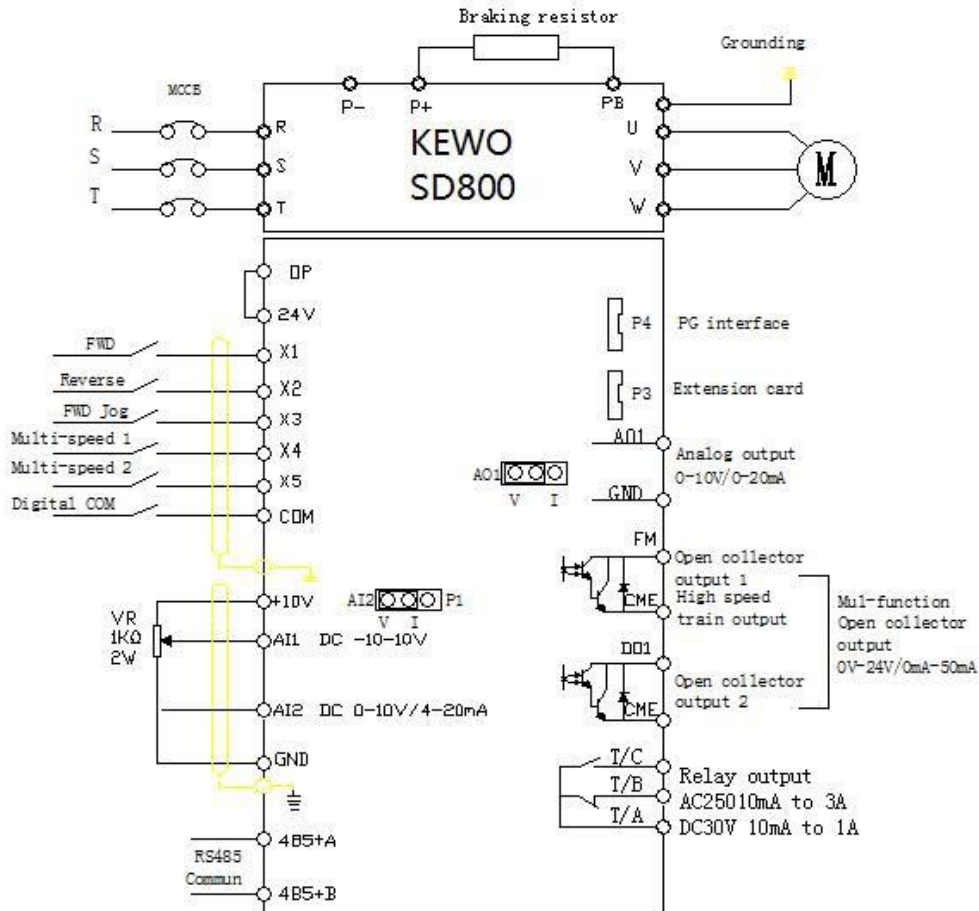
- Torque respond speed $\leq 5\text{ms}$ in OLV without PG
- Wide input voltage range, and work above 45°C is available
- Outstanding overload capacity, 150% rated current for 60s, 180% rated current for 3s, 200% rated current for instantaneous.
- Speed range 1:100 (SFVC), 1:1000 (CLVC)
- Startup torque, G type: 0.5 Hz/150% (SFVC); 0 Hz/180% (CLVC), P type: 0.5 Hz/100%
- Torque control accuracy, $\pm 5\%$ (CLVC)

Hardware enhanced features.

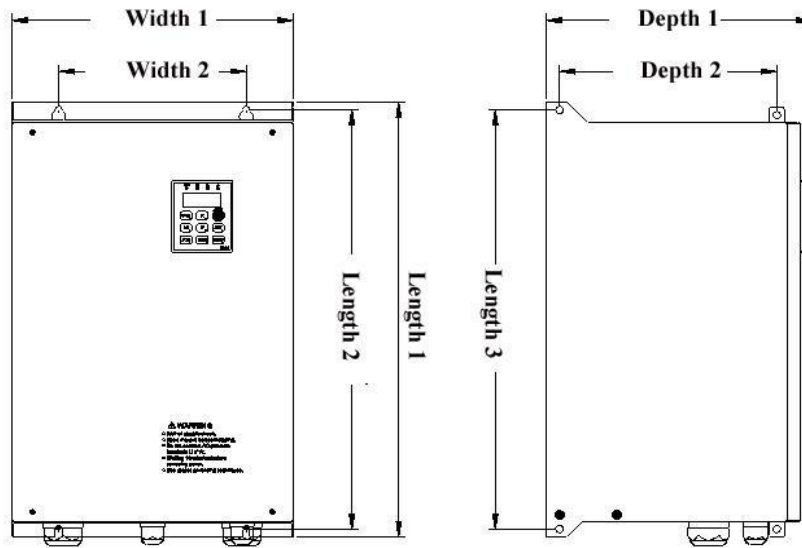
- 1. Ti 's 32 bit DSP (28034/35), Germany Infineon intelligent modules;
- 2. Sealed cabinet, conformal coating on PCB;
- 3. Adopt using aviation plugs that have good quality water proof, gas and oil proof. (options)
- 4. Imported high-speed ventilation fan with 24V DC power supply, good cooling effect;
- 5. Lower failure rate and long service lift
-

Wiring diagram of SD800. (the same as AD800 series)

- It has 5 digital I/O input, compatible sink and source way. (PNP an NPN)
- 2 Analog input, support -10V to 10V, 0-10V, 0/4 to 20mA.
- 1 Analog output (0-10V/0-20mA is selectable)
- 2 collector output (FM and CME support the high pulse output).
- 1 relay output.
- Extension PG, I/O card are available.



SD800 Sealed frequency inverter external and installation dimension



| Models | Power | L1 | W1 | D1 | L2 | W2 | L3 | D2 | SLOT HOLE |
|-------------------|-----------------|---------------|-----|-----|----------------|-----|----------------|-----|-----------|
| | | External size | | | Install size 1 | | Install size 2 | | |
| SD800-4T0.7/3.7GB | 0.75-3.7kw,380V | 230 | 130 | 177 | 215 | 90 | 215 | 140 | M5 |
| SD800-4T5.5/7.5GB | 5.5-7.5KW,380V | 320 | 180 | 210 | 305 | 120 | 305 | 170 | M5 |
| SD800-4T11.0/15GB | 11-15kw, 380V | 390 | 230 | 225 | 375 | 160 | 375 | 180 | M6 |
| SD800-18.5/22/30G | 18.5-30kw, 380V | 390 | 230 | 225 | 375 | 160 | 375 | 180 | M6 |

Applications

Metal processing, CNC tooling machine, cable drawing machine.

Boiler air blower, induced draft fan, exhaust fan

municipal Construction , HVAC

circulating water pump, Fill pump, fuel delivery pump

Paper making equipment, chemical industry, pharmaceutical industry, textile industry