

SHENZHEN KEWO ELECTRIC TECHNOLOGY CO., LTD



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 customer 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

us keep top position among Chinese manufactures. We have established 2 modernization production lines, digital quality control system, code bar tracking system and ERP 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)





Sealed VFD AD850Z/T(Servo Drive) Solar Pump Inverter Soft Starters



KEWO AD DRIVES BRIEF INTRODUCTION

PRODUCTS	SPECIFICATION	PICTURES	BRIEF INTRODUCTION
AD800 Series	1Ph, 220V, 0.4kw to 2.2kw.		Drive for PMSM and IM
High	3Ph, 220V, 0.75kw to 75kw	88888	Accuracy speed and torque control for
Performance	3Ph, 380V/660V/1140V,		motor, multiple functions, good protection;
Vector Control	0.75 to 630kw.		Sensorless vector control, sensor vector
Drive/ Variable			control with PG, VF control,
Speed Drive			180% rated starting torque,
			big allowance IGBT module ,
AD100 Mini	1Phase, 220V, 0.4 to 1.5kw	Exces	Adopt software platform as same as
Economic AC		000	AD800, easy using and powerful function
Drive			Mini and Economic type,
		A SUMMER	Using IPM of iGBT
AD350 Mini	1 Ph 220V,0.4 to 2.2kw,	Corne	Mini drive with compact design
Vector Control	3 Ph,380V, 0.75 to 3.7kw		Vector control and VF using the same
Drive			software platform as AD800;
		A MANNES	IGBT module to ensure good quality, rich
			functions
Ad800S	1Ph, 220V, 0.4kw to 2.2kw.	CHARLE	Enhanced AD800 version, special for
Frequency	3Ph, 220V, 0.75kw to 75kw	200	PMSM servo motor with sensorless or
Inverter For	3Ph, 380V/660V/1140V,		sensor control, Multiple protection
PMSM (servo	0.75 to 630kw.	A.A. A.	function
drive)		***************************************	Rich functions, and flexible using
			PG card built in controller board
AS850 Z Servo	3 phase, 380V±15%, 5.5kw to	ALCOHOL MAN THE PARTY OF THE PA	Driving f or permanent magnet
Drive For PMSM	110kw		synchronous motor (PMSM) for energy
Of IMM.			saving. High energy saving, high power
		A Manual Property of the Control of	factor, quick response and high accuracy
			control, etc.
AS850T Spindle	3 phase, 380V±15%, 2.2kw to	NAMES OF THE PARTY	Spindle servo drive for CNC, machining
Servo Drive For	55kw		center, packing, textile, etc. high accuracy
PMSM And IM		No.	speed, torque and position control
		A comment	through close loop servo control
SD800 Seal	220V (single-phase power)		sealed frequency inverter is enhanced
Frequency	0.4-2.2kW	GBBBB	version of AD800 series frequency
Inverter (IP54)	380V (three-phase power)		inverter, built in with IP54 protection
	0.75-30kW		grade. With excellent in anti-dust, water
	5 5 55	A particular of the control of	proof, anti-grease and anti-corrosion
		* list paper participation and	properties
			proportios



AD100 Mini Frequency Inverter.

AD100 is a small and economical type inverter, which designed for small machine OEM general purpose application. The good performance of V/F control mode, multiple segment speed, flexible and accuracy PID, DC braking function, ModBus communication, that will make you machine become powerful and improving his competitive edge.

Power range: 0.4 to 1.5kw

Input voltage: single phase 220V ±15%

Control mode: Sensorless vector control without PG, V/f control

Protection function: Provide up to 25 kinds fault protection, over current, over voltage, under voltage, phase

missing, overload protection function

Cooling method: force cooling Installation method: wall mount

IPM iGBT using

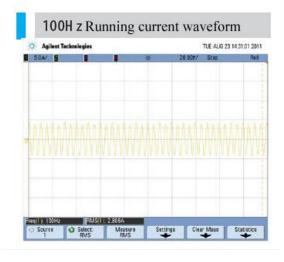


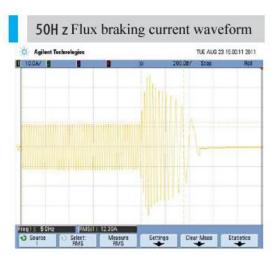






Good performance for smaller machine.

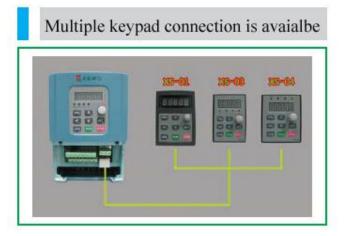




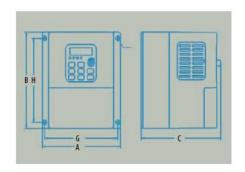


Built in RS485 interface for forming communication easily.

All series support Modbus communication Modbus



Data sheet.



Modes	G	Н	Α	В	C
AD 100-250.4 ⁻ 2.26	117	135	125	155	130
AD350-250.4 ² .2G AD350-4T0.75 ³ .7G	117	135	125	155	130
AD350-5.5 ⁻ 7.5G					
AD 350-11 ⁻ 15G					

The pictures of KEWO AD100 economic frequency inverter



Power board IPM module Controller board multiple function terminals



Wiring Diagram

Main circuit: Single phase input (R, T), 3 phase output (U, V, W)

Controller circuit:

5 digital input, DI5 can use for high pulse train inut.

1 analog Al1 input (0-10V, 0-20mA)

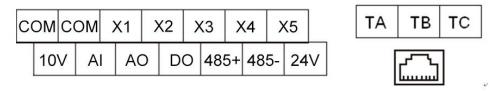
1 analog output AO (0-10V,0-20mA)

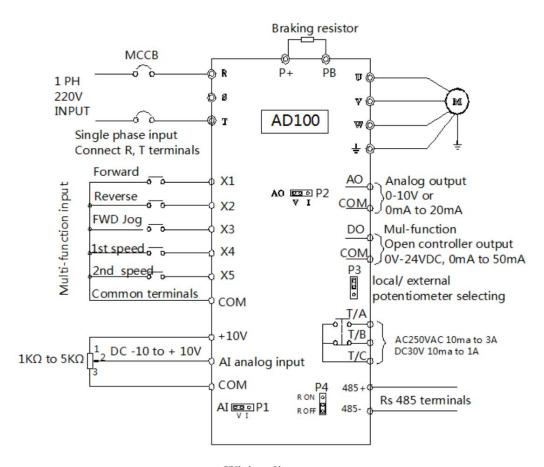
1 open collector output D0

1 relay output. (TA, TB, TC)

Built in Modbus Rs485 terminals.

Terminals diagram:





Wiring diagram



AD350 High Performance Sensorless Vector Control Inverter

AD350 high performance vector control mini frequency inverter is KEWO independently developed new generation general purpose electrical motor controller, which adopt the same software platform as same as AD800.

With a new generation of high-performance advanced vector control technology applying, high torque control even under low speed, high speed precision, quick torque response and high speed range are available for sophisticated motor control.

It is featured to have modular design, small size, small temperature rise, low noise, and reliable performance. It has built in simple PLC, PID adjusting, programmable input and output terminals function, RS458 terminals, multifunction analog input and output function. ect.

Power range: 2S 0.4 to 2.2kw, 4T 0.75 to 3.7kw.

Input voltage: Single phase 220V, 3 phase 380V ±15%

Control mode: Sensorless vector control without PG, V/f control

Protection function: Provide up to 25 kinds fault protection, over current, over voltage, under voltage, phase

missing, overload protection function

Cooling method: force cooling Installation method: wall mount

Infineon iGBT module



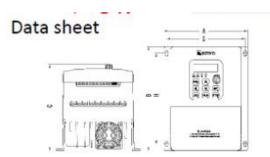






AD350 Sensorless Vector Control Inverter

Products dimension



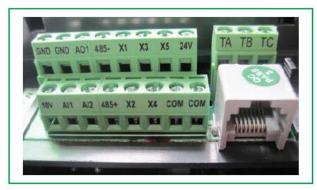
AC drive modele	Install lot mm		Dimension mm			Bolt	Deference	
AC drive models	G	Н	Α	В	С	mm	Reference.	
		AD3	50 seri	es				
AD350-2S0.4GB~ AD350-2S2.2GB	447	405	105	455	100		Fig. 4	
AD350-4T0.75GB~ AD350-4T3.7GB	117	135	125	155	130	M4	Fig.1	



Products features:

AD350 inverter has the same software and same operation manual as AD800. Only the size and I/O layout is difference.

Clear silk print of terminal mark easy for wiring



Flanging design for easy installation



Heat sink and bottom housing together for better heat dissipation, the side anti-dust cloth is option.



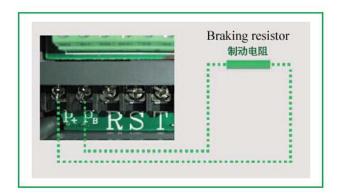
Adopting new generation IGBT module, all Kewo AC drive usnig IGBT module for quality guarantee.



Thick PCBA coating for hard environment using



Bunit it braking unit for full power range of AC350.



^{*}AD350 sensorless vector control inverter can't performance close loop vector control because there are no PG connector.



Wiring diagram

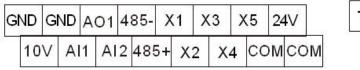
It has 5 digital input, DI5 can use for high pulse train input

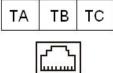
2 analog signal input,

1 analog output and 1 relay output.

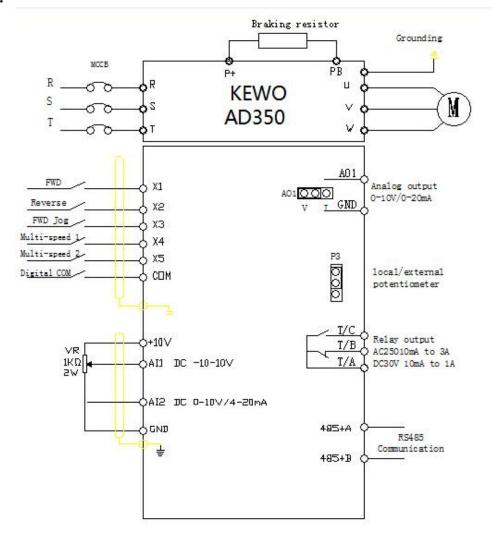
In built Rs485 terminal

Terminals diagram:





Wiring diagram.





AD100/AD350 frequency inverter application examples.

1. Food processing machinery

Bakery equipment, confectionary equipment, tea-making machine, noodle-making machines, candy-wrapping machines, rice/barely milling machines, flour milling machines, food mixers, food slicers, fruit sorting machines, etc.

Advantage:

- You can set the operating frequency according to the required work rate.
- Run and Stop keys.
- Ensures safety in the event of an instantaneous power failure.
- Low noise
- High torque from start up to the rated speed.

2. Conveyance machinery

Conveyors, automatic warehousing systems etc. Prevent the collapse of cargo on the conveyor.

The AD100/AD350 allow you to mitigate the shocks caused in starting and stopping a conveyor and change the acceleration /deceleration rates according to the conveyor characteristics and its applications.

The AD100/AD350 can slow down a high –inertia machine in a short period of time without causing an overvoltage trip by increasing the energy consumed by the motor.

The AD100/AD350 can turn on and off the braking circuitry in accordance with the inverter operating status. It offers vector control and automatic torque boost control modes to achieve strong, stable torque from the start of a motor to the rated speed.

3. Fans & pumps

Built in fans- pumps in industrial machines, water supply and sewage systems, driers, etc.

Energy-saving mode

The variable torque and automatic energy saving modes help saving energy by passing optimal current in accordance with the load.

Automatic process control

Allows a motor to keep running and accelerate smoothly upon the recovery of power even in the event of instantaneous power failure.

Enable an uninterrupted operation without causing a trip.

.4 Health, medical and nursing care equipment.

Stair lifts, nursing bed, bubble baths, health care equipment, medical equipment

5. Environment and daily-life-related machinery

Commercial ironing boards, car washing machines, Garbage disposers, dust collectors, Dries, etc.

6. Packing machinery.

Inner packaging machine, packing machines, output packing machines, membrane packing machines



The AD100 economic VFD share the same software plat, the same cover, same size and same manual. The big difference is power board difference.

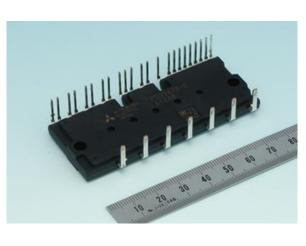
AD100 use IPM IGBT, but AD350 use the iGBT module.



AD350 use iGBT module.







AD100 using the IPM iGBT, but AD350 use Infineon IGBT module



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. Applying the most advanced sensorless vector control technology, 32bits DSP control system and Infineon latest IGB technology, Excellent unique ventilation design with powerful big fans. More than 2000pcs AD800 high performance vector control inverters are widely using in kinds application since 2014 with good customer feedback.

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
- 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

Models, input current, output current.

Model	Input voltage	220V (1/2T)	380V (4T)	660V (6T)
Take example with 380V model.	Rated power (kw)	Output current (A)	Outp ut curre nt(A)	Output current(A)
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	Ì	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



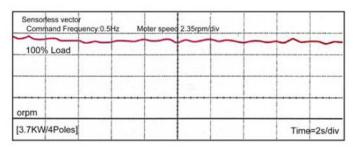
Features of products.

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 .

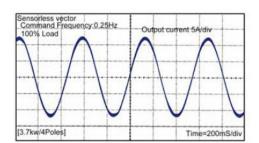
1). Wide speed control range

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)



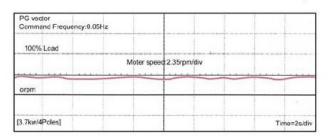




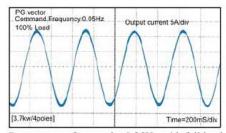
The current waveform with 100% load under 0.25Hz

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.

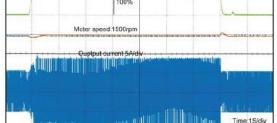
- a.) The response 100rad/s, precision ± 0.5% in sensorless open loop vector control mode.
- b.). The response 250rad/s, precision ± 0.01% in sensor close loop vector control mode

Sensorless vector control mode: response 100 rad/s, accuracy ±0.5%.

Sensorless vector

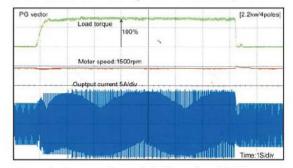
Load torque 100%

Moter speed 1500rpm



Impact load response characteristic (Senserless without PG)

Sensor vector control mode: response 250rad/s, accuracy +0.01%



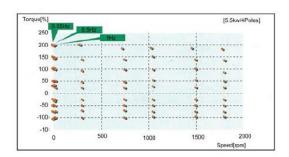
Impact load response characteristic (Senserless with PG)



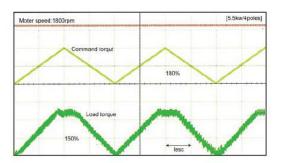
3). High torque output under low speed to meet some big inertia load conditions

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.

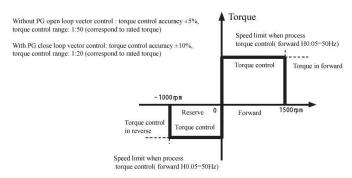


Torque characteristic



Accuracy torque limit

4). Torque control in OLV and CLV



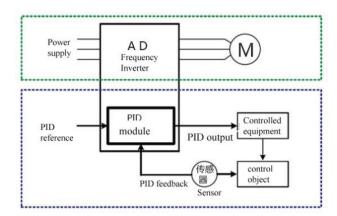
Speed Imimit in torque control mode

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.



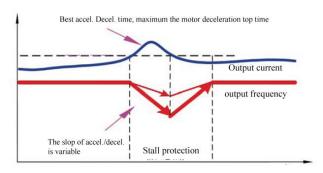
6). Stall protection function

when over current, over voltage occurs, the output frequency will be reduce, and the output frequency /voltage under limit value, the output frequency will restore.

Appropriate acceleration and deceleration will be select according to the load control the motor stopping time even power loss instantaneous.

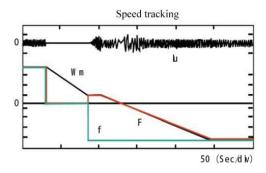


Stall protection illustrations



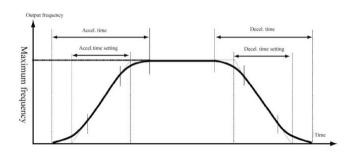
7). Speed tracking restart function

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

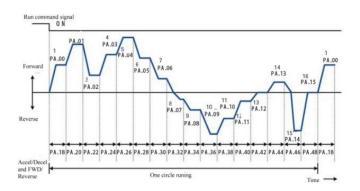


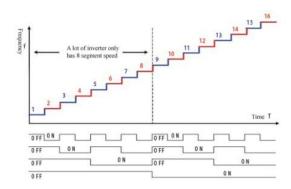
8). S curve function

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



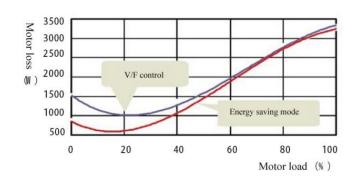
9).16 segment speed circle running, easy to configure.





10). Advanced energy saving technology

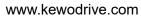
AD800 series inverter can detect the load status to control the output voltage and power factor to make motor work in high efficient mode.





Technical specification

	Items	Specification					
	Control mode	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			
Control mode	speed stabilizing precision			±0.02%			
	Torque precision	NO	NO	±5%			
	Motor type	General induction motor	or, permanent ma	agnet synchronous motor*			
	Highest frequency	General vector control	:400Hz V/f contr	ol: 4000Hz			
	frequency resolution	Digital setting: 0.01Hz	analog setting: n	naximum×0.025%			
	carrier frequency	0.5 K \sim 16KHz, the cautomatically	arrier frequency o	can be adjust by temperature			
	Frequency reference	Digital of Control pane	l, analog Al1, Al2,	potentiometer of control panel			
	setting method	UP/DN control, commu	ınication, PLC pul	se frequency			
	Accel./decel. characteristic	Linear curve and S of to 65000S.	curve accel. /dec	cel. mode, range of time: 0.0			
	V/F curve	3 mode: linear, multiple points, N Power					
	V/F separation	2 times separation: totally separation, half separation					
Ī	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					
Functin design	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 moto running. Torque control is available in close loop vector control mode.					
footure -	friendly interface	Display Hello when po	wer on.				
features	Multiple function key JOG	It can set for Forward	log, reverse Jog, t	forward/reverse switch			
		1		16			





	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 Al1 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, seria						
	Troqueriey course	communication, main and auxiliary combination.						
	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	environment temperature	-10 °C \sim +40 °C, power derate for 40 \sim 50 °C, rated current derated 1%						
	environment temperature	for 1°C increasing.						
	humidity	Less than 95%, no water condense.						
	storage	-40∼+70℃						

^{*:}AD350 have no this function

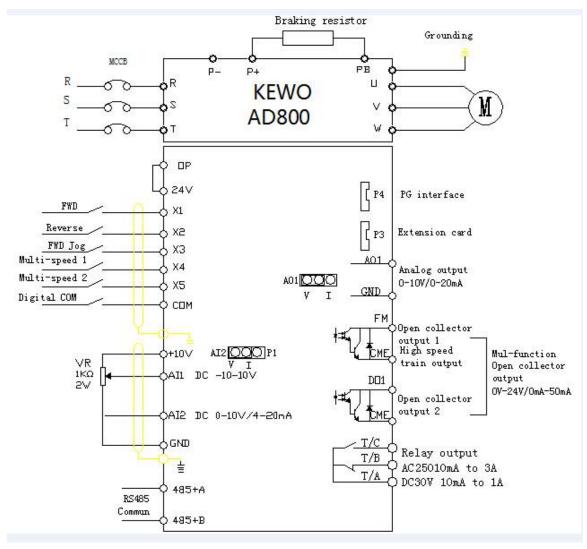
AD800 AC Drive models.





Wiring diagram of AD800.

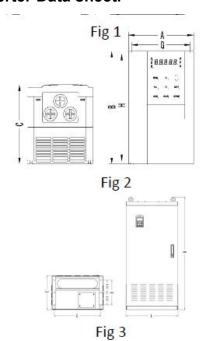
- I. PG cards external built if need, support ABZ optical encoder, ABZ differential input, Rotating transformer encoder...)
- 2. Built in following functions terminals.
- It has 5 digital I/O input, compatible with sink and source way. (NPN /PNN)
- 2 Analog input, support -10V to 10V, 0-10V, 0/4 to 20mA.
- 1 Analog output (0-10V/0-20mA cab 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.



	AE	0800 se	ries 3 P	H, 220	V			
AD800-2T0.75GB					2)	3 (3)		
AD800-2T1.5GB	117	135	125	155	130	M4	Fig.2	
AD800-2T2.2GB					0	0		
AD800-2T3.7GB	140	200	100	070	105	ME	Fig.2	
AD800-2T5.5GB	140	260	160	270	165	M5		
AD800-2T7.5GB	140	250	210	370	178	MC	Eig O	
AD800-2T11G	140	350	210	370	170	M6	Fig.2	
AD800-2T15G	200	200	440	070	400	225	MC	Fin O
AD800-2T18.5G	200	410	270	430	225	M6	Fig.2	
AD800-2T22G	200	500	200	520	225	M8	Fig 2	
AD800-2T30G	200	500	290	520	225	IVIO	Fig.2	
AD800-2T37G	250	500	252	600	205	140	Fig 0	
AD800-2T45G	250	580	352	600	285	M8	Fig.2	
D800-2T55G	000	700	450	700	210	MO	Fig. 0	
AD800-2T75G	300	700	458	720	310-	M8	Fig.2	

3 PH 380V/440V

AC drive models	Install lot mm		Dim	ension	Bolt	Ref eren	
	G	Н	Α	В	С	mm	ce.
D800-4T1.5GB							
AD800-4T2.2GB	117	210	130	220	165	M4	Fig2
AD800-4T3.7GB AD800-4T5.5PB	117	117 210	100	220	100		i igz
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	Refer
	G	Н	Α	В	С	mm	ence.
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	400	700	300	720	300	IVIO	rig Z
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	1573	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,



