YCB3000 Variable frequency drive

General

1. YCB3000 series frequency converter is a general-purpose high-performance current vector frequency converter, which is mainly used to control and adjust the speed and torque of three-phase AC asynchronous motors. It adopts high-performance vector control technology, low-speed and high-torque output, and has the advantages of good dynamic characteristics, super overload capacity, stable performance, powerful protection function, simple human-machine interface, and easy operation.
2. It can be used for driving of weaving, papermaking, wire drawing, machine tool, packaging, food, fan, water pump and various automatic production equipment.

Type designation

YCB3000	-	4	T	0015	G
Name		Power input voltage	Input phase line	Rated power of frequency converter	Load type
YCB3000		2:AC220V 4:AC380V	S: Single phase T: Three phase	0007: 0.75KW 0015: 1.5KW 0022: 2.2KW	G: Constant torque load P: Fan and water pump loads

Note:

The frequency converter YCB3000-2S and 2T are both G-type load types,

The maximum power of the frequency converter YCB3000-2S reaches 5.5KW; YCB3000-2T maximum power to 7.5KW.

Operating conditions

Environment	
Where to use	Indoor, free from direct sunlight, no dust, corrosive gas, combustible gas, oil mist, water steam, dripping water or salt, etc
Above sea level	Below 1000m, 1% for 100m over 1000m, 1% over 3000m (Note: The highest elecation of 0.4~3kW drive is 2000m, if used above 2000m, please contact the manufacturer)
Ambient temperature	-10°C~+40°C, when the temperature exceeds 40°C. The decrease is 1.5% per 1C increase, and the maximum ambient temperature is 50°C
Humidity	Less than 95%RH, no condensation
Vibrate	Less than 5.9m/s²(0.6g)
Storage temperature	-20°C~+60°C

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Technical data

Project	Technical specifications	
Input the frequency resolution	Number setting: 0.01Hz, simulation setting: maximum frequency 0.025%	
Control method	Open-loop vector control(SVC); closed-loap vector control(FVC); V/F control.	
Pull-in torque	0.25Hz/150%(SVC); 0Hz/180%(FVC)	
Speed range	1:200 (SVC)	1:1000 (FVC)
Steady speeda accuracy	+0.5% (SVC)	+0.02% (FVC)
Torque control accuracy	FVC: +3%, SVC: 5Hz above +5%	
Recurrent ascension	Automatic torque increase, manual torque increase of 0.1%-30.0%.	
V/F curve	Four ways: straight line, multi-point type; complete V y F separation; incomplete V y F separation.	
Add deceleration curve	Straight-line or S-curve acceleration and deceleration modeFour acceleration and deceleration times, acceleration anddeceleration time range 0.0.6500.0s.	
DC injection braking	DC brake starting frequency:0.00Hz- maximum frequency; Brake time: 0.0s~36.0s; Brake action current value: 0.0%-100.0%	
Electronic contro	Tap movementfrequency range: 0.00Hz-50.00Hz;Tap action, acceleration and deceleration time is 0.0s-6500.0s	
Isimple PLC, multi-segment speedoperation	Up to 16 segments can be run with a built-in PLC or controlterminal.	
Built-in PID	It can easily realize the process control closed-loop controlsystem.	
Automatic VoltageAdjustment(AVR)	When the grid voltage changes, the output voltage constant.	
Over pressure overloss speed control	Automatic limit of current and voltage during operation toprevent frequent excessive flow pressure trip.	
Quick flow	Minimize the over current fault, and protect the normal	
Restriction function	operation of the frequency converter.	
Torque limit andcontrol	The characteristic of "excavator" automatically limits the torqueduring operation to prevent frequent current trip; the vectorcontrol mode can realize torque control.	
Instantly stop	In case ofinstantaneous power outage, the frequency converteris maintained to reduce the load feedback energy compensationvoltage in a short time.	
Fast flow limit	Avoid the frequent over current fault of the frequency converter.	
Invented IO	Five sets of virtual DIDO, which can achieve simple logic control.	
Timing control	Timing control function: set the time range of 0.0Min ~ 6500.0Mir	
Multi-motorswitching	Two sets of motor parameters, can realize two motor switchcontrol.	
Multithreaded bussupport	Support for six fieldbuses: Modbus, Profibus-DP CANlinkCANopen, Profinet, and EtherCAT.	
Motor overheatingprotection	With the lO extension card 1 option, the analog input AI3 acceptsthe motor temperature sensorinput(PT100, Pt1000).	
Multi-encodersupport	Support for differential, open-circuit collector, UVW, rotarytransformer,etc	

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Project	Technical specifications
Run instructions	Operation panelgiven, control terminal given, serialcommunication port given.It can be switched in many ways
Frequencyinstruction	10 frequency commands: digital given, analog voltage, analogcurrent, pulse, serial port given. You can be switched in manyways
Auxiliary frequencyinstruction	10 Auxiliary frequency commands.It can flexibly realize theauxiliary frequency fine-tuning and frequency synthesis
Input terminal	standard: ● Five DI terminals, one of which supports a high-speedpulseinput ofup to 100kHz ● Two AI terminals,1, one only supports 0-10V voltageinput,one supports 0-10V voltageinput or 0-20mAcurrentinput Extended ability: ● The 5 DI terminals of the ● One AI terminal, support-10V-10V,oltage input, andsupport PT100/PT1000 support
leading-outterminal	standard: ● One high-speed pulse output terminal(optional as theopen-circuit collector type), ● Support the square-wave signal output of 0~100kHz ● 1 DO terminal ● One relay output terminal ● One AO terminal with 0 to 20 mA current output or 0 to 10Vvoltage output Extended ability: ● 1 DO terminal ● One relay output terminal ● One AD terminal with 0 to 20 mA current output or 0 to 10Vvoltage output utput
LED show	Display parameters
Parameter copy	Quick replication of the parameters is available through theLCD action paneloption
Key-lock andfunction selection	Part or all of the keys can be locked to define the scope ofsome keys to prevent misoperation
Lack ofphaseprotection	Input phase protection, output phase phase protection
Instant over currentprotection	Stop at over 250%% ofthe rated output current
Over voltagecrowbar	Stop when the main circuit DC current is above 820V
Under voltageprotection	Stop when the main circuit DC currentis below 350V
Overheat protection	Protection is triggered when the inverter bridge overheated
Overload protection	150%rated current for 60s shutdown (4T4500G: 130% ratedcurrent running for 60s shutdown)
Over currentpratection	Stop protection exceeding 2.5 times rated current
Brake protection	Brake unit overload protection, brake resistance short-circuitprotection
short-circuitprotection	Dutput alternate with short circuit protection, output shortcircuit to ground pratection

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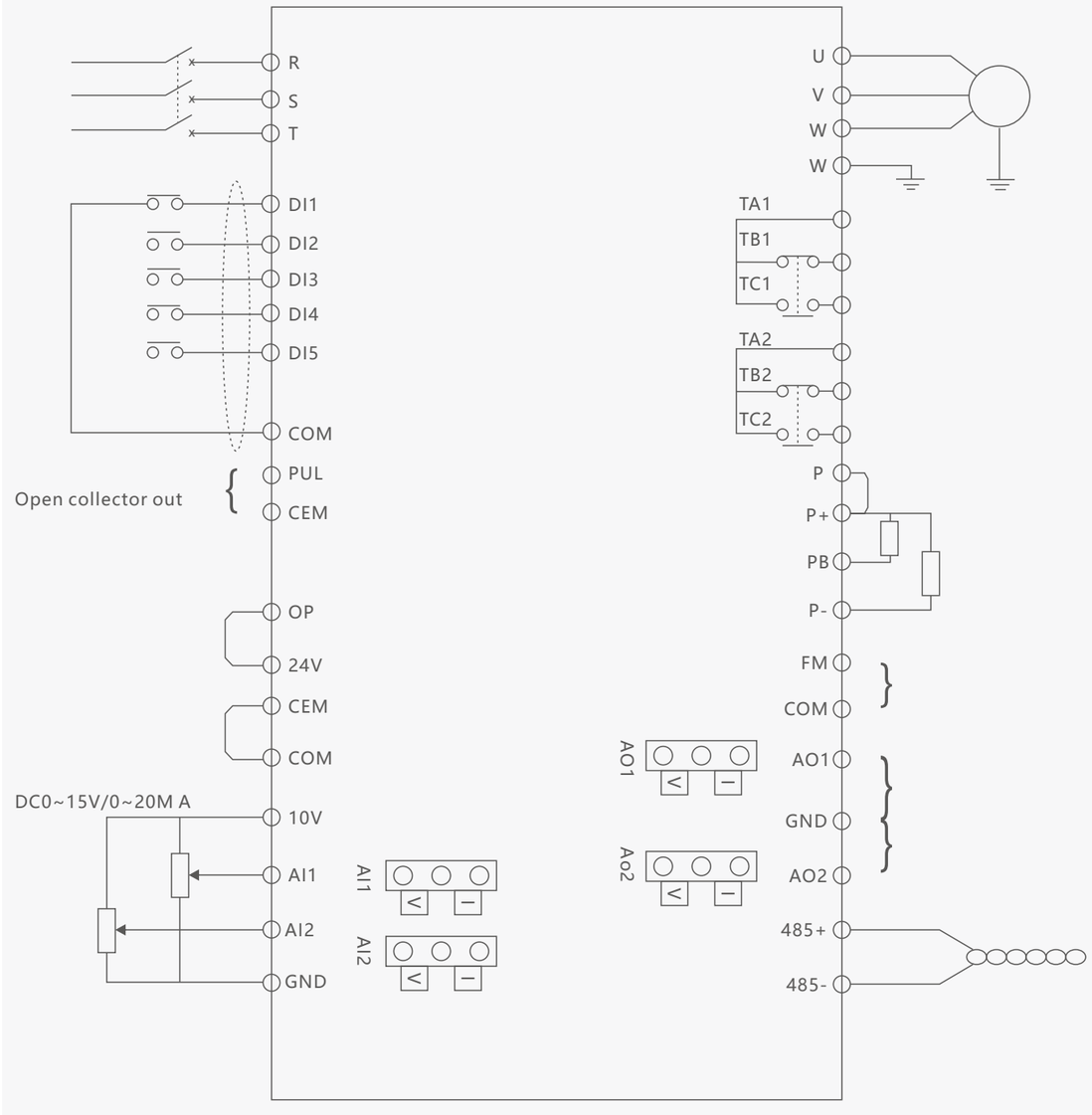
Wiring diagram

Three-phase 380V~480V standard wiring diagram



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Product adaptation table

Model	Power supply capacity is KVA	Input current A	Output current A	Adaptation motor	
				KW	HP
Single-phase power supply: 220v (-10%~+15%), 50/60Hz					
YCB3000-2S0007G	1.5	8.2	4.0	0.75	1
YCB3000-2S0015G	3.0	14	7.0	1.5	2
YCB3000-2S0022G	4.0	23	9.6	2.2	3
YCB3000-2S0040G	8.9	14.6	13	4.0	5
YCB3000-2S0055G	17	26	25	5.5	7.5
Three-phase power supply: 220V (-10%~+15%), 50/60Hz					
YCB3000-2T0007G	3	5	3.8	0.75	1
YCB3000-2T0015G	4	5.8	5.1	1.5	2
YCB3000-2T0022G	5.9	10.5	9	2.2	3
YCB3000-2T0040G	8.9	14.6	13	4.0	5
YCB3000-2T0055G	17	26	25	5.5	7.5
YCB3000-2T0075G	21	35	32	7.5	10
YCB3000-4T0110G	30	46.5	45	11	15
YCB3000-4T0150G	40	62	60	15	20
YCB3000-4T0185G	57	76	75	18.5	25
YCB3000-4T0220G	69	92	91	22	30
YCB3000-4T0300G	85	113	112	30	40
YCB3000-4T0370G	114	157	150	37	50
YCB3000-4T0450G	135	180	176	45	60
YCB3000-4T0550G	161	215	210	55	75
YCB3000-4T0750G	236	315	304	75	100

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Product adaptation table

Model	Power supply capacity is KVA	Input current A	Output current A	Adaptation motor	
				KW	HP
Three-phase power supply: 380V (-10%~+15%), 50/60Hz					
YCB3000-4T0015G	3.0	5	3.8	1.5	2
YCB3000-4T0022G	4.0	5.8	5.1	2.2	3
YCB3000-4T0030G	5.0	8.0	7.2	3.0	4
YCB3000-4T0040G	5.9	10.5	9	4.0	5
YCB3000-4T0055G	8.9	14.6	13	5.5	7.5
YCB3000-4T0075G	11	20.5	17	7.5	10
YCB3000-4T0110G	17	26	25	11	15
YCB3000-4T0150G	21	35	32	15	20
YCB3000-4T0185G	24	38.5	37	18.5	25
YCB3000-4T0220G	30	46.5	45	22	30
YCB3000-4T0300G	54	57	60	30	40
YCB3000-4T0370G	63	69	75	37	50
YCB3000-4T0450G	81	89	91	45	60
YCB3000-4T0550G	97	106	112	55	75
YCB3000-4T0750G	127	139	150	75	100
YCB3000-4T0900G	150	164	176	90	120
YCB3000-4T1100G	179	196	210	110	150
YCB3000-4T1320G	220	240	253	132	180
YCB3000-4T1600G	263	287	304	160	210
YCB3000-4T1850G	305	323	340	185	240
YCB3000-4T2000G	334	365	377	200	260
YCB3000-4T2200G	375	410	426	220	285
YCB3000-4T2500G	404	441	465	250	320

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Product adaptation table

Model	Power supply capacity is KVA	Input current A	Output current A	Adaptation motor	
				KW	HP
Three-phase power supply: 380V (-10%~+15%), 50/60Hz					
YCB3000-4T2800G	453	495	520	280	370
YCB3000-4T3150G	517	565	585	315	420
YCB3000-4T3550G	565	617	650	355	480
YCB3000-4T4000G	629	687	725	400	530
YCB3000-4T4500G	716	782	820	450	600
YCB3000-4T5000G	800	820	900	500	680
YCB3000-4T5600G	930	950	1020	560	750
YCB3000-4T6300G	1050	1050	1120	630	850
YCB3000-4T7200G	1200	1200	1300	720	960
YCB3000-4T8000G	1330	1380	1420	800	1060
YCB3000-4T10000G	1660	1650	1720	1000	1330

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Overall and mounting dimensions(mm)

Model	Install the holeposition of mm		External size: mm			Install aperture (mm)
	A	B	H	W	D	
YCB3000-4T0015G	79	154	164	89	125	Φ4
YCB3000-4T0022G	79	154	164	89	125	Φ4
YCB3000-4T0030G	79	154	164	89	125	Φ4
YCB3000-4T0040G	86	173	184	97	145	Φ5
YCB3000-4T0055G	86	173	184	97	145	Φ5
YCB3000-4T0075G	131	245	257	146.5	185	Φ6
YCB3000-4T0110G	131	245	257	146.5	185	Φ6
YCB3000-4T0150G	131	245	257	146.5	185	Φ6
YCB3000-4T0185G	151	303	320	170	205	Φ6
YCB3000-4T0220G	151	303	320	170	205	Φ6
YCB3000-4T0300G	120	385	400	200	220	Φ7
YCB3000-4T0370G	120	385	400	200	220	Φ7
YCB3000-4T0450G	200	493	510	260	252	Φ7
YCB3000-4T0550G	200	493	510	260	252	Φ7
YCB3000-4T0750G	200	493	510	260	252	Φ7

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Model	Install the holeposition of mm		External size: mm			Install aperture (mm)
	A	B	H	W	D	
YCB3000-4T0900G	200	630	660	320	300	Φ9
YCB3000-4T1100G	200	630	660	320	300	Φ9
YCB3000-4T1320G	250	755	780	400	345	Φ12
YCB3000-4T1600G	250	755	780	400	345	Φ12
YCB3000-4T1850G	250	755	780	400	345	Φ12
YCB3000-4T2000G	300	872	900	460	355	Φ12
YCB3000-4T2200G	300	872	900	460	355	Φ12
YCB3000-4T2500G	360	922	950	500	355	Φ12
YCB3000-4T2800G	360	922	950	500	355	Φ12
YCB3000-4T3150G	500	1029	1050	650	365	Φ12
YCB3000-4T3550G	500	1029	1050	650	365	Φ12
YCB3000-4T4000G	500	1265	1300	650	385	Φ14
YCB3000-4T4500G	500	1265	1300	650	385	Φ14
YCB3000-4T5000G	500	1265	1300	650	385	Φ14
YCB3000-4T5600G	600	1415	1450	850	435	Φ14
YCB3000-4T6300G	600	1415	1450	850	435	Φ14
YCB3000-4T7200G	600	1415	1450	850	435	Φ14
YCB3000-4T8000G	1000	1415	1450	1100	465	Φ14
YCB3000-4T10000G	1000	1415	1450	1100	465	Φ14

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