CVF9 Variable Frequency Drive

General

CVF9 series frequency converter is a general-purpose, high-performance current vector inverter, mainly used to control and adjust the speed and torque of three-phase AC asynchronous motors.It adopts advanced vector control technology to deliver high torque output at low speeds, offering excellent dynamic performance, strong overload capacity, stable operation, comprehensive protection functions, and a user-friendly interface for easy operation. The CVF9 series is suitable for applications in weaving, papermaking, wire drawing, machine tools, packaging, food processing, fans, water pumps, and various types of automated production equipment.

Operation and Installation Conditions

Environment	
Where to use	Indoor use. Keep away from direct sunlight, dust, corrosive gas, flammable gas, oil mist, water vapor, dripping water, and salt spray.
Altitude	Full power below 1000 m. Above 1000 m, reduce rated power by 1% for every additional 100 m. Above 3000 m, contact the manufacturer. (Note: For 0.4~3 kW, the maximum altitude is 2000m. For use above this, please consult the manufacturer.)
Ambient Temperature	-10°C to +40°C for full performance. Above 40°C, reduce power by 1.5% for each additional 1°C. Maximum allowable temperature is 50°C.
Humidity	Less than 95% RH, no condensation.
Vibration	Less than 5.9 m/s² (about 0.6g).
Storage Temperature	-20°C to +60°C.

Selection

CVF9	-	2	S	0015	G
Model		Power input voltage	Input phase line	Rated power of frequency converter	Load type
VFD		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

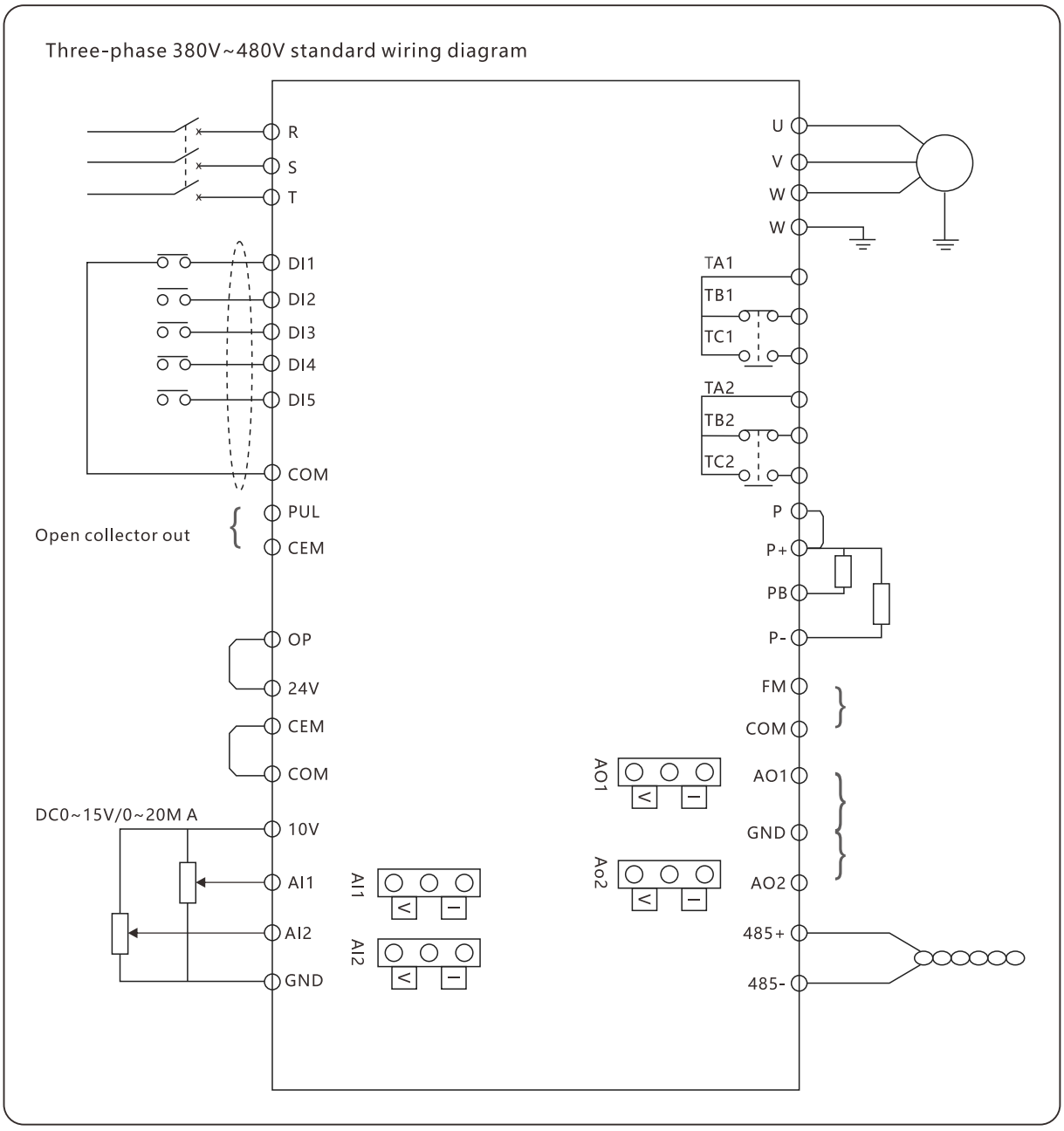
Technical Parameters

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	
Simple PLC,multi-segment speed operation	Up to 16 segments can be run with a built-in PLC or control terminal.	
Built-in PID	It can easily realize the process control closed-loop controlsystem.	
Automatic Voltage Adjustment(AVR)	When the grid voltage changes, the output voltage constant.	
Over pressure overloss speed control	Automatic limit of current and voltage during operation to prevent 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 and control	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 compensation voltage in a short time.	
Fast flow limit	Avoid the frequent over current fault of the frequency converter.	
Invented I O	Five sets of virtual DIDO,which can achieve simple logic control.	
Timing control	Timing control function:set the time range of 0.0Min～6500.0Min	
Multi-motorswitching	Two sets of motor parameters,can realize two motor switch control.	
Multithreaded bussupport	Support for six fieldbuses:Modbus,Profibus-DP CANlinkCANopen,Profinet,and EtherCAT.	
Motor overheatingprotection	With the IO extension card 1 option,the analog input AI3 accepts the motor temperature sensorinput(PT100, Pt1000).	
Multi-encoder support	Support for differential,open-circuit collector, UVW, rotary transformer,etc	
Run instructions	Operation panel given,control terminal given,serialcommunication port given. It can be switched in many ways	
Frequency instruction	10 frequency commands:digital given,analog voltage,analog current,pulse, serial port given. You can be switched in many ways	
Auxiliary frequency instruction	10 Auxiliary frequency commands.It can flexibly realize the auxiliary 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 voltage input,one supports 0- 10V voltage input or 0-20mA current input Extended ability: • The 5 DIterminals of the • One AI terminal, support-10V-10V,oltage input,and support PT100/PT1000 support	
leading-out terminal	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 O to 10V voltage output Extended ability: • 1 DO terminal • One relay output terminal • One AD terminal with O to 20 mA current output or O to 10V voltage output	

Technical Parameters

Project	Technical specifications
LED show	Display parameters
Parameter copy	Quick replication of the parameters is available through the LCD action paneloption
Key-lock and function selection	Part or all of the keys can be locked to define the scope of some keys to prevent misoperation
Lack of phase protection	Input phase protection,output phase phase protection
Instant over current protection	Stop at over 250% of the rated output current
Over voltage crowbar	Stop when the main circuit DC current is above 820V
Under voltage protection	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%rated current running for 60s shut down)
Over current pratection	Stop protection exceeding 2.5 times rated current
Brake protection	Brake unit overload protection,brake resistance short-circuit protection
short-circuit protection	Output alternate with short circuit protection,output short circuit to ground pratection

Wiring Diagram



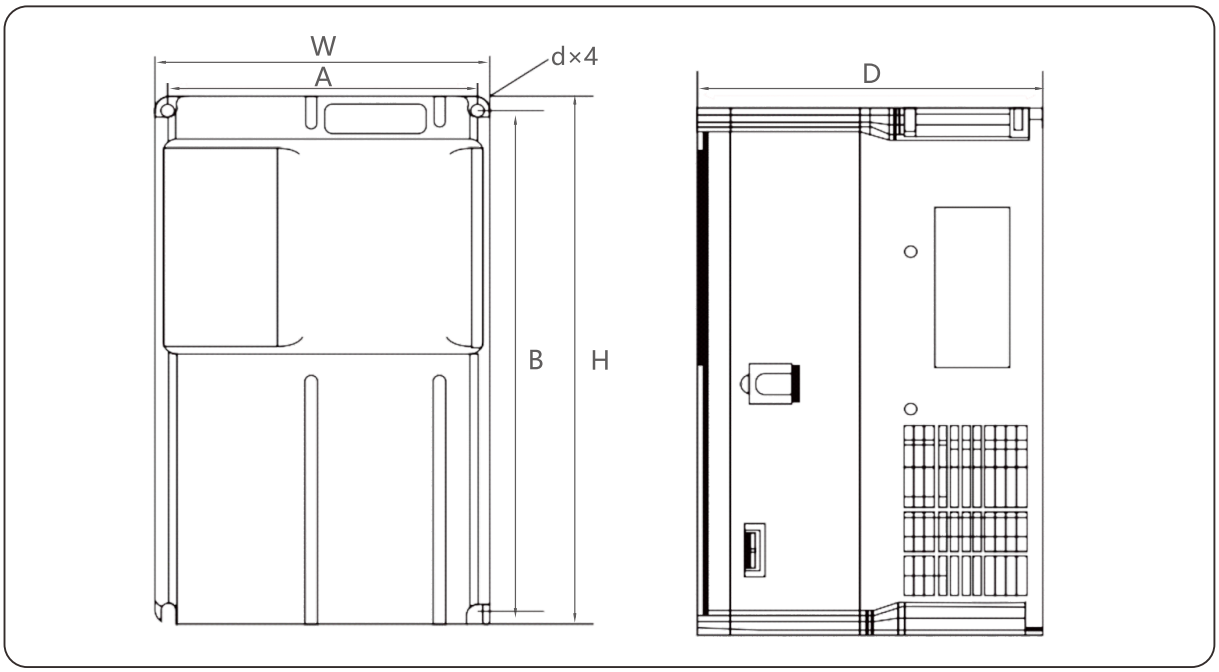
Product Adaptation Table

Model	Power supply capacity KVA	Input current A	Output current A	Adaptation motor	
				KW	HP
Single-phase power supply:220v(-10%~+15%),50/60Hz					
CVF9-2S0007G	1.5	8.2	4.0	0.75	1
CVF9-2S0015G	3.0	14	7.0	1.5	2
CVF9-2S0022G	4.0	23	9.6	2.2	3
CVF9-2S0040G	8.9	14.6	13	4.0	5
CVF9-2S0055G	17	26	25	5.5	7.5
Three-phase power supply:220V(-10%~+15%),50/60Hz					
CVF9-2T0007G	3	5	3.8	0.75	1
CVF9-2T0015G	4	5.8	5.1	1.5	2
CVF9-2T0022G	5.9	10.5	9	2.2	3
CVF9-2T0040G	8.9	14.6	13	4.0	5
CVF9-2T0055G	17	26	25	5.5	7.5
CVF9-2T0075G	21	35	32	7.5	10
CVF9-4T0110G	30	46.5	45	11	15
CVF9-4T0150G	40	62	60	15	20
CVF9-4T0185G	57	76	75	18.5	25
CVF9-4T0220G	69	92	91	22	30
CVF9-4T0300G	85	113	112	30	40
CVF9-4T0370G	114	157	150	37	50
CVF9-4T0450G	135	180	176	45	60
CVF9-4T0550G	161	215	210	55	75
CVF9-4T0750G	236	315	304	75	100
Three-phase power supply:380V(-10%~+15%),50/60Hz					
CVF9-4T0015G	3.0	5	3.8	1.5	2
CVF9-4T0022G	4.0	5.8	5.1	2.2	3
CVF9-4T0030G	5.0	8.0	7.2	3.0	4
CVF9-4T0040G	5.9	10.5	9	4.0	5
CVF9-4T0055G	8.9	14.6	13	5.5	7.5
CVF9-4T0075G	11	20.5	17	7.5	10

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					
CVF9-4T0110G	17	26	25	11	15
CVF9-4T0150G	21	35	32	15	20
CVF9-4T0185G	24	38.5	37	18.5	25
CVF9-4T0220G	30	46.5	45	22	30
CVF9-4T0300G	54	57	60	30	40
CVF9-4T0370G	63	69	75	37	50
CVF9-4T0450G	81	89	91	45	60
CVF9-4T0550G	97	106	112	55	75
CVF9-4T0750G	127	139	150	75	100
CVF9-4T0900G	150	164	176	90	120
CVF9-4T1100G	179	196	210	110	150
CVF9-4T1320G	220	240	253	132	180
CVF9-4T1600G	263	287	304	160	210
CVF9-4T1850G	305	323	340	185	240
CVF9-4T2000G	334	365	377	200	260
CVF9-4T2200G	375	410	426	220	285
CVF9-4T2500G	404	441	465	250	320
CVF9-4T2800G	453	495	520	280	370
CVF9-4T3150G	517	565	585	315	420
CVF9-4T3550G	565	617	650	355	480
CVF9-4T4000G	629	687	725	400	530
CVF9-4T4500G	716	782	820	450	600
CVF9-4T5000G	800	820	900	500	680
CVF9-4T5600G	930	950	1020	560	750
CVF9-4T6300G	1050	1050	1120	630	850
CVF9-4T7200G	1200	1200	1300	720	960
CVF9-4T8000G	1330	1380	1420	800	1060
CVF9-4T10000G	1660	1650	1720	1000	1330

Dimensions and Installation Sizes(mm)



Model	Install the hole position of mm		External size:mm			Install aperture(mm)
	A	B	H	W	D	
CVF9-4T0015G	79	154	164	89	125	Φ4
CVF9-4T0022G	79	154	164	89	125	Φ4
CVF9-4T0030G	79	154	164	89	125	Φ4
CVF9-4T0040G	86	173	184	97	145	Φ5
CVF9-4T0055G	86	173	184	97	145	Φ5
CVF9-4T0075G	131	245	257	146.5	185	Φ6
CVF9-4T0110G	131	245	257	146.5	185	Φ6
CVF9-4T0150G	131	245	257	146.5	185	Φ6
CVF9-4T0185G	151	303	320	170	205	Φ6
CVF9-4T0220G	151	303	320	170	205	Φ6
CVF9-4T0300G	120	385	400	200	220	Φ7
CVF9-4T0370G	120	385	400	200	220	Φ7
CVF9-4T0450G	200	493	510	260	252	Φ7
CVF9-4T0550G	200	493	510	260	252	Φ7
CVF9-4T0750G	200	493	510	260	252	Φ7
CVF9-4T0900G	200	630	660	320	300	Φ9
CVF9-4T1100G	200	630	660	320	300	Φ9
CVF9-4T1320G	250	755	780	400	345	Φ12
CVF9-4T1600G	250	755	780	400	345	Φ12
CVF9-4T1850G	250	755	780	400	345	Φ12
CVF9-4T2000G	300	872	900	460	355	Φ12
CVF9-4T2200G	300	872	900	460	355	Φ12
CVF9-4T2500G	360	922	950	500	355	Φ12
CVF9-4T2800G	360	922	950	500	355	Φ12
CVF9-4T3150G	500	1029	1050	650	365	Φ12
CVF9-4T3550G	500	1029	1050	650	365	Φ12
CVF9-4T4000G	500	1265	1300	650	385	Φ14
CVF9-4T4500G	500	1265	1300	650	385	Φ14
CVF9-4T5000G	500	1265	1300	650	385	Φ14
CVF9-4T5600G	600	1415	1450	850	435	Φ14
CVF9-4T6300G	600	1415	1450	850	435	Φ14
CVF9-4T7200G	600	1415	1450	850	435	Φ14
CVF9-4T8000G	1000	1415	1450	1100	465	Φ14
CVF9-4T10000G	1000	1415	1450	1100	465	Φ14