



## Variable frequency drives Introduction

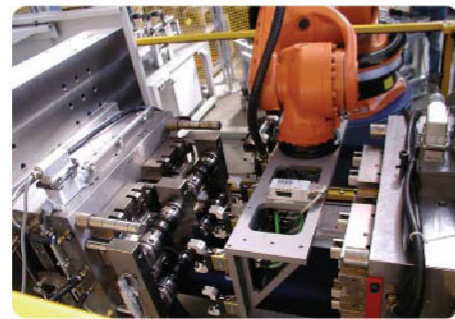
GK3000 series variable frequency drives manufactured by Gozuk adopt advanced current vector control and V/F control mode, to achieve more accuracy controls for electric motor; Intelligent self-learning feature according to the control environment, output high torque at low frequency; Tracking the electric motor speed and rotation direction in real time to enhance the motor protection while the motor is not started by zero speed. Monitor motor operation status and record fault factors; Integrated RS 485 communication interface to enable flexible operation. Besides, we can customize variable frequency drive base on different customers in different special solutions.

## Applications



## Technical Features

- Vector control variable frequency drive
- Power range: 0.4kW – 3.7kW for single phase 220VAC  
0.75kW – 400kW for three phase 380VAC
- Wide range voltage input +/- 15%
- Built-in braking unit for power less than 15kW
- Built-in PID to achieve close loop control easily
- Special 32 bit advanced CPU for motor speed control
- Support RS 485, Modbus-RTU communication protocol
- Tracking motor speed in real time
- Advanced self-learning function
- Rapid response to load's change with dynamic torque current control
- Monitor & record variable frequency drives running status
- Check and adjust parameters online
- Output high torque under low frequency: 0.5Hz/150%
- Provide LED, LCD keypads for option
- Parameters copy function for user controlling multiple drives easily
- Programmable multi-function input/output terminals
- Automatic calculate rolling diameter
- Compact design for easy install in small space
- Analog input/output 0 – 10V or 4 – 20mA
- Adjustable 16 speed steps
- Universal digital input/output terminals
- Strengthen environment adaptability with conformal coating
- Comply with EMC standard with reliable performance
- High speed control accuracy to achieve synchronization and position control conveniently





## [Variable Frequency Drive Model Selection]

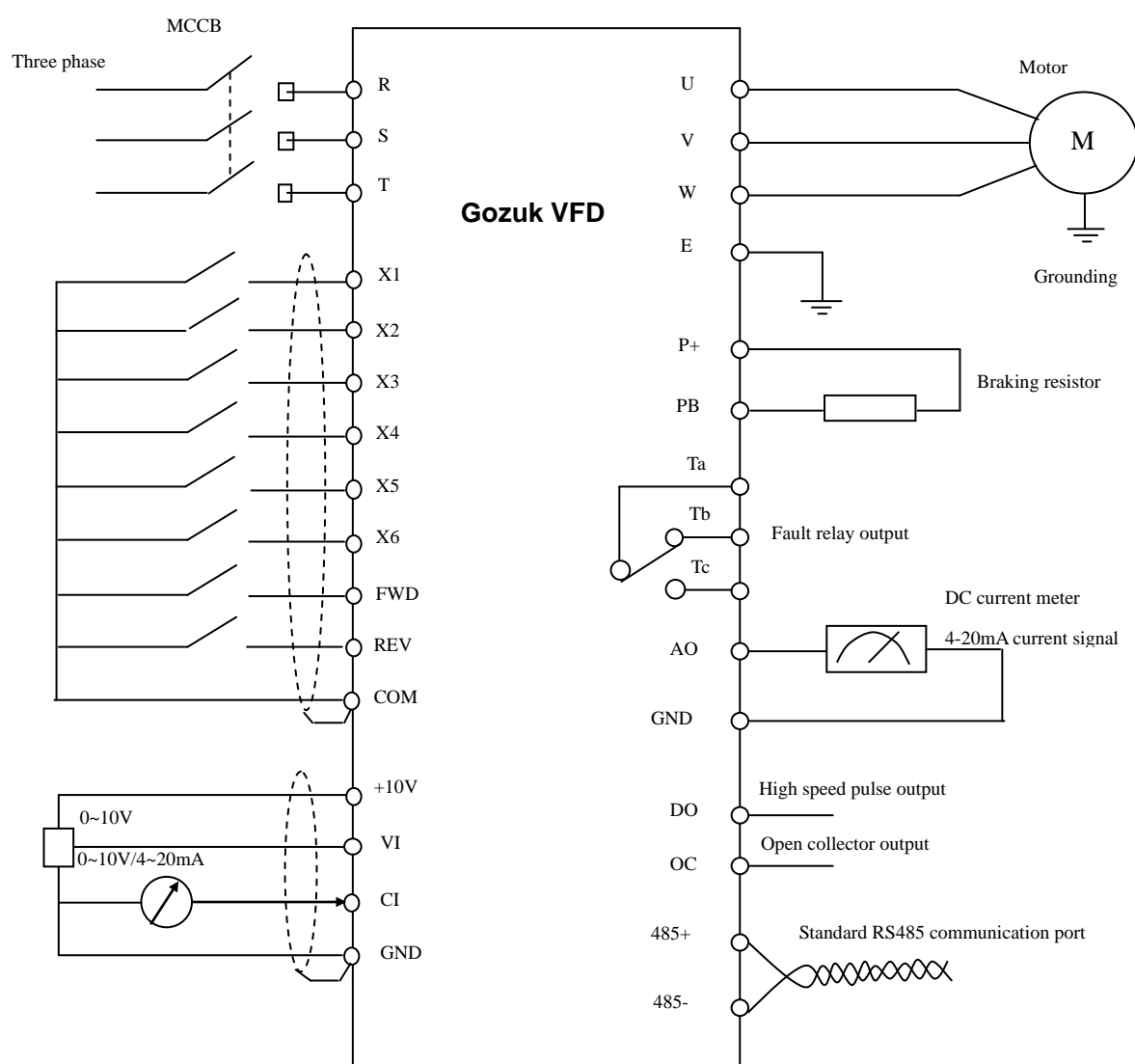
### 220V Ratings

Model No.	Power (kW)	Current (A)	Dimensions (mm)	G.W (kg)
GK3000-2S0004	0.4	3	142*85*113	1.2
GK3000-2S0007	0.75	4.7		
GK3000-2S0015	1.5	7.5		
GK3000-2S0022	2.2	10	184*98*135	2
GK3000-2S0037	3.7	17	230*155*164	6.5

### 380V Ratings

Model No.	Power (kW)	Current (A)	Dimensions (mm)	G.W (kg)
GK3000-4T0007G	0.75	2.5	184*98*135	2
GK3000-4T0015G	1.5	4		
GK3000-4T0022G	2.2	6	230*118*153	3
GK3000-4T0037G	4	9.6		
GK3000-4T0055G	5.5	14	280*181*183	6.5
GK3000-4T0075G	7.5	17		
GK3000-4T0110G	11	25	339*231*214	10.5
GK3000-4T0150G	15	32		
GK3000-4T0185G	18.5	39	423*258*230	17.5
GK3000-4T0220G	22	45		
GK3000-4T0300G	30	60	500*296*276	30
GK3000-4T0370G	37	75		
GK3000-4T0450G	45	91	560*320*269	40
GK3000-4T0550G	55	112		
GK3000-4T0750G	75	150	618*398*306	50
GK3000-4T0900G	90	176		
GK3000-4T1100G	110	210	760*485*324	85
GK3000-4T1320G	132	253		
GK3000-4T1600G	160	304	1440*600*399	180
GK3000-4T1850G	185	355		
GK3000-4T2000G	200	380		
GK3000-4T2200G	220	426		
GK3000-4T2500G	250	474		
GK3000-4T2800G	280	520		
GK3000-4T3150G	315	600	1500*930*515	470
GK3000-4T3550G	355	650		
GK3000-4T4000G	400	750		

## VFD Basic Wiring Diagram



## [General Specification]

Item	Description	
I/O Feature	Input voltage range	1AC 220~240V +15% 3AC 380~440V +15%
	Input frequency range	50/60Hz
	Output voltage range	0~rate input voltage
	Output frequency range	0.00~400.00Hz
	Over load capacity	150% of rated current for 1 minute, 180% of rated current for 3 seconds
Control Feature	Control mode	V/F control; Sensorless vector control;
	Speed regulation range	1:100
	Start torque	150% of rating torque at 1 Hz
	Speed control accuracy	$\leq \pm 0.5\%$ of rating synchronous speed
	Frequency precision	Digital setting: max frequency $x \pm 0.01\%$ ; analog setting: max frequency $x \pm 0.2\%$
	Frequency resolution	Analog setting: 0.1% of max frequency Digital setting: 0.01Hz
	Torque boost	Automatic torque boost, manual torque boost 0.1%~30.0%
	V/F curve	Set rating frequency randomly at range of 5~400Hz, can choose constant torque, degressive torque 1, degressive torque 2, degressive torque 3 and user defined V/F curve in total 5
	Accelerating decelerating curve	Modes: straight line accelerating / decelerating, S curve accelerating / decelerating and automatic Acc/Dec mode; 7 kinds of accelerating / decelerating time (unit of minute/second can be optioned), max is 6000 minutes.
	Brake	Power consumption brake: external braking resistance with built-in braking unit DC brake: Optional start-up and stop, action frequency 0~15Hz, action current 0~80%, action time 0~60.0s
	Jog	Jog frequency range: 0.10Hz~50.00Hz; jog accelerating / decelerating time 0.1~60.0s can be set
	Multi-section speed running	Realized by interior PLC or control terminal
	Interior PID controller	Be convenient to make closed-loop system
	Automatic energy save running	Optimize V/F curve automatically based on the load to realize power save running
	Automatic volt. regulation (AVR)	Can keep constant output volt. When power source voltage varies.
Automatic current limiting	Limit running current automatically to avoid frequent over-current which will cause trip	
Running function	Running order specified channel	Keypad provision, control terminal provision, serial port provision
	Running frequency specified channel	Digital provision, analog provision, impulse provision, serial port provision, combined provision, can be switched at any time by kinds of method.
	pulse output channel	Impulse square wave signal output of 0~50KHz can realize output of physical parameter such as setting frequency, output frequency and etc.
	Analog output channel	2 channel of analog signal output, each channel can be 4~20mA or 0~10V, through them the variable frequency drive can realize output of physical parameter such as setting frequency, output frequency and etc.
Configuration	Defending grade	IP20
	Cooling mode	By fan with automatic temperature control
Keypad	LED display	Can display setting frequency, output frequency, output voltage, output current etc. in total 20 kinds of parameter
	Button lock	Lock all of the buttons
	Parameters copy	Parameters can be quickly copied. by using of keyboard and remote-control keypad
Environmental Constraint	Temperature	-10°C ~ +40°C; VFD will be derated if ambient temperature exceed 40°C; each rise 1°C, the derate will be 5%
	Humidity	5%-95%, without condensation
	Altitude	$\leq 1000\text{m}$ ; VFD will be derated if above 1000m
	Impingement and oscillation	Normal running: $< 5.9\text{m/s}^2$ (0.6g); Transportation: $< 15\text{m/s}^2$ (1.5g)
	Store environment	-20°C ~ +60°C; no dust, no corrosive gas, no direct sunlight