



V9 SERIES HIGH-PERFORMANCE FREQUENCY INVERTER

V9 Frequency Inverter a simple yet powerful product

V9 multi-function vector control Frequency Inverter is designed for various applications, constant pressure water supply, solar pump in remote area, HVAC ventilation fans, Packing & handling machines, HVLS Fan PMSM motor application, machine OEM partners, CNC high speed spindle, Panel builders etc;

V9 is a win-win solution for our users

Clients no need to select right models from complicated products based on different applications, V9 can meet all your application requirements; For special applications, we will offer tailor solution. For the installer, compact design plus side-by-side mounting & DIN rail installation will dramatically save time and cost. End user save cost, installer save time.

Features

- ◆ Support both PMSM/BLDC motor and normal induction A/S motor;
- ◆ Side-by-side mounting capability;
- ◆ Vector control;
- ◆ DIN rail mounted design (0.75kw~2.2kw);
- ◆ 220V/1P input and 380V/3P output;
- ◆ Support Solar Pump model, DC input from solar panel and AC output for water pump;
- ◆ Dust-free cooling fans;
- ◆ Cost effective design, saving your total cost.



Benefits

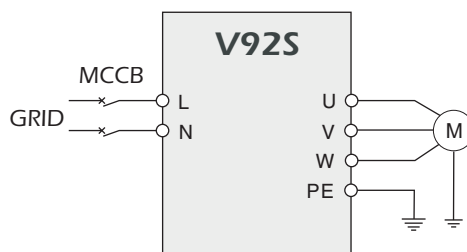
- ◆ Support PMSM motor, with higher efficiency and less installation space;
- ◆ Built-in Braking chopper/unit, suitable for more complicated applications;
- ◆ Compact size, saving control cabinet enclosure cost;
- ◆ Vector control, auto-tuning saving setup time and offer higher performance.

Applications

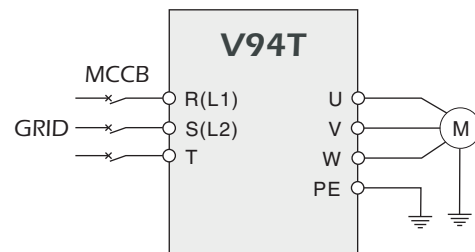
- ◆ Handling and packing;
- ◆ Constant pressure water supply;
- ◆ Special machines;
- ◆ Pumps and fans;
- ◆ HVLS Fans;
- ◆ Textile machines.



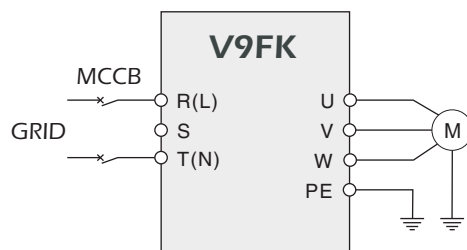
Wiring diagram



220V Three Phase Motor



380V Three Phase Motor



220V/1P IN 380V/3P Output

Specifications

Items		Specifications
Input	Rated Input Voltage	220V / 380V / 415V / 440V; 50Hz/60Hz
	Tolerance	Voltage: $\pm 20\%$ voltage unbalance rate: $< 3\%$; frequency: $\pm 5\%$
Output	Rated Output voltage	220V / 380V / 415V / 440V
	Frequency range	0Hz~5000Hz
	Frequency resolution	0.01Hz
	Overload capability	150% rated current for 1 minute, 180% rated current for 3 seconds
Control function	Torque control accuracy	$\pm 5\%$ (FVC)
	Control mode	V/F, sensorless vector control (SVC), Speed Sensor vector control(FVC)
	Frequency Accuracy	Digital setting: The highest frequency $\times \pm 0.01\%$ Analog setting: The highest frequency $\times \pm 0.2\%$
	Frequency resolution	Digital setting: 0.01Hz; Analog setting: The highest frequency $\times 0.1\%$
	Start frequency	0.40Hz ~ 20.00Hz
	Torque boost	Auto torque boost, manual torque boost 0.1%~30.0%
	V/F curve	Five ways: constant torque V/F curve, 1 kind of user defined V/F curve ,3 kinds of down torque curve(2.0/1.7/1.2times the power)
	Acc./Dec. curve	Two ways: linear Acc./Dec.,S-curveAcc./Dec.;7 kinds of Acc./Dec. time, Time unit(minute/second) optional, max. time: 6000 minutes.
	DC braking	DC Braking Frequency: 000Hz~ Max Frequency Braking Time: 0.0s~36.0s Braking Action Current Value: 0.0%~100.0%
	Energy consuming braking	Below 22KW drive built-in energy consuming braking unit, external braking resistor is optional.
	Jog running	Jog frequency range:0.1Hz~50.00Hz, JOG Acc./Dec. time: 0.0~6500.0s
	Build-in Double PID	Easily constitute a close loop control system
	Short time continuous working when power failure	when the instantaneous power failure occurs, the load side regenerative energy compensate the voltage drop and the inverter keep running for a short time.
	Multi-stage speed running	Max 16 multi-stage speed running via build-in PLC or control terminals
	Textile swing frequency	Swing frequency available with preset and central frequency adjustable
	Auto voltage regulation	Keep a stable voltage automatically when the grid voltage transients
	Auto energy saving running	Saving energy by auto optimizing V/F curve according to the load
	Auto current limiting	Auto current limiting to prevent frequent over current fault trip
	Multi pumps control	With water supply kit, it can implement multi pumps constant pressure water supply
Communication	Support: Modbus	
Running function	Running command channel	Keypad , Control terminal , Serial port , Above 3 channels are switchable
	Frequency setting channel	Keypad potentiometer setting: ▲、▼ control panel keys setting; Function code setting: Serial port setting; Terminal up/down setting: Input Analog voltage setting: Input Analog current setting: Input pulse setting; Combination ways setting;Above ways are switchable.
	Switch input channel	FWD/REV command: 8channels programmable switch inputs, 52kinds of function can be set separately
	Analog input channel	4~20mA: 0-10V: 2 optional analog inputs
	Analog output channel	4~20mA or 0~10V optional, setting frequency and output frequency ,etc feature output
	Switch/pulse output channel	Programmable open collector output: relay output :0~20KHz pulse output:
Control panel	LEDdigital display	Display setting frequency, output voltage, output current, etc.
	External meter display	Display output frequency, output current, output voltage, etc.
	Key lock	All the keys can be locked
	Parameter copy	Function code parameters can be copied between inverters when use remote control panel.
Protection function		Overcurrentprotection:overvoltageprotection:undervoltageprotection:overheating protection: overload protection, etc. Input phase loss protection (model>2.2kw)
Optional parts		Braking unit: remote control panel: cable: panel mounting feet, etc.
Environment	Environment	Indoors, avoid from direct sunlight, dust, corrosive gas, oil mist, steam, water dropper salt, etc
	Altitude	Lower than 1000m (derating is necessary above 1000m)
	Ambient temperature	- 10℃ ~ + 40℃
	Humidity	<95%RH, no condensation
	Vibration	Lower than 5.9m/s (0.6g)
	Storage temperature	- 20℃ ~ + 60℃
Protection level		IP20 (In the selection of state display unit or the keyboard state)
Cooling		Forced air cooling
Installation		Wall mounted; Floor mounted

Quick Setup

Basic operating function parameters

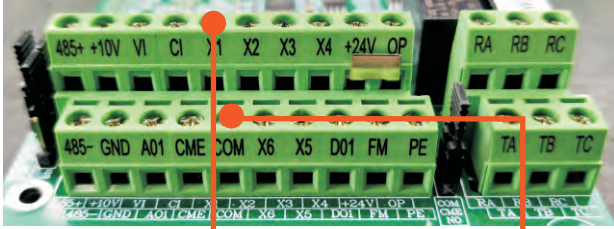
Func Code	Name	Range	Minimum Unit	Factory Default
P0.00	Control mode	0: V/F control 1: Sensorless vector control (SVC) 2: Sensor vector control (FVC)	1	0
P0.01	Main frequency source 1 selection	0: Digital setting 1(P0.02, UP/DOWN can modify, non-retentive at power failure) 1: Digital setting 2(P0.02, UP/DOWN can modify, retentive at power failure) 2: VI analog setting (VI-GND) 3: CI analog setting (CI-GND) 5: Pulse setting 6: Multi-reference 7: Simple PLC 8: PID 9: 485 communication	1	0
P0.02	Setting running frequency	P0.07 lower limit frequency~P0.06 upper limit frequency	0.01Hz	50.00Hz
P0.03	Command source selection	0: Operation panel control (LED off) 1: Terminal control (LED on) 2: Communication control (LED blinking)	1	0
P0.04	Rotation direction	0: Same direction 1: Reverse direction	1	0
P0.05	Maximum frequency	50.00Hz~5000.00Hz	0.01Hz	50.00Hz
P0.06	Frequency upper limit	Frequency lower limit to maximum frequency (P0.05)	0.01Hz	50.00Hz
P0.07	Frequency lower limit	0.00Hz to frequency upper limit(P0.06)	0.01Hz	0.00Hz

Motor Parameters

Func Code	Name	Range	Minimum Unit	Factory Default
P8.00	Motor type selection	0: Common asynchronous motor 1: Variable frequency asynchronous motor 2: PMSM(Permanent magnet synchronous motor)	1	0
P8.01	Rated motor power	0.1KW~1000.0KW	0.1KW	Frequency Inverter Rated Value
P8.02	Rated motor voltage	1V~2000V	1V	Frequency Inverter Rated Value
P8.03	Rated motor current	0.01A~655.35A (inverter power≤55KW) 0.1A~6553.5A(inverter power>55KW)	0.01A	Frequency Inverter Rated Value
P8.04	Rated motor frequency	0.01Hz to maximum frequency	0.01Hz	Frequency Inverter Rated Value
P8.05	Rated motor rotational speed	1rpm~65535rpm	1rpm	Frequency Inverter Rated Value

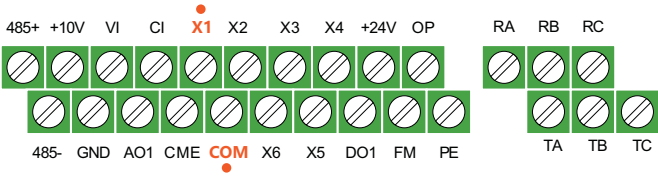
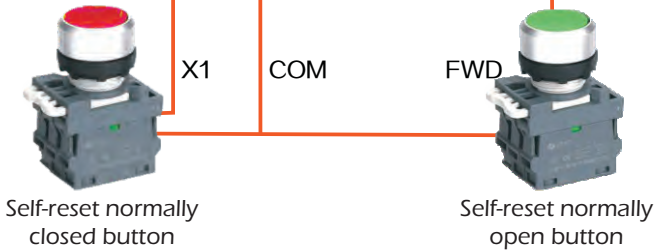
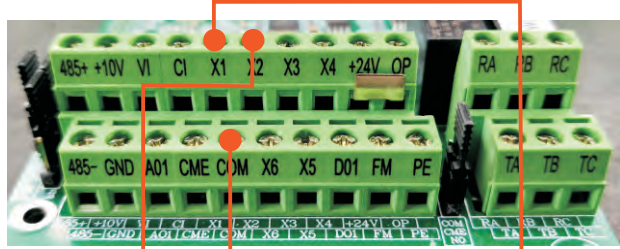
Remote Terminal Control

Two-wire system (parameter: P0.03=1)

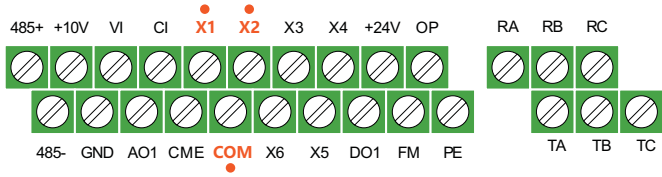


X1 COM

Three-wire system (parameters: P0.03=1, P3.00=1, P3.01=3, P3.14=3)



X1 terminal and COM terminal are connected to the inverter to start
 X1 terminal and COM terminal are disconnected, the inverter stop



Press the green self-reset button to start the inverter
 Press the red self-reset button to stop the inverter