Kinco 步科

KC100 VFD For 2024

VFD Introduction

KC100: Cost effectioncy VFD

KC100, the basic function, book-like design FVD :

- Power input: 2S：180VAC～260VAC；4T：320VAC～460VAC
- Power rating: 0.4 ~ 5.5 kW.
- Frequncy range: 0-4000Hz,
- Advance hardware design:
  - IGBT modules with independent heatwind flow.
  - multi-hall current sensing
  - IO points adding
  - hardware current-limit circuit
  - New keyboard design for easy setting
- Brand new software design
  - VF control with 150% load start, SVC control with 180% load start
  - AVR function:
  - Application improvement: Fan, pump
  - Full function alarm:

1 Product introduction

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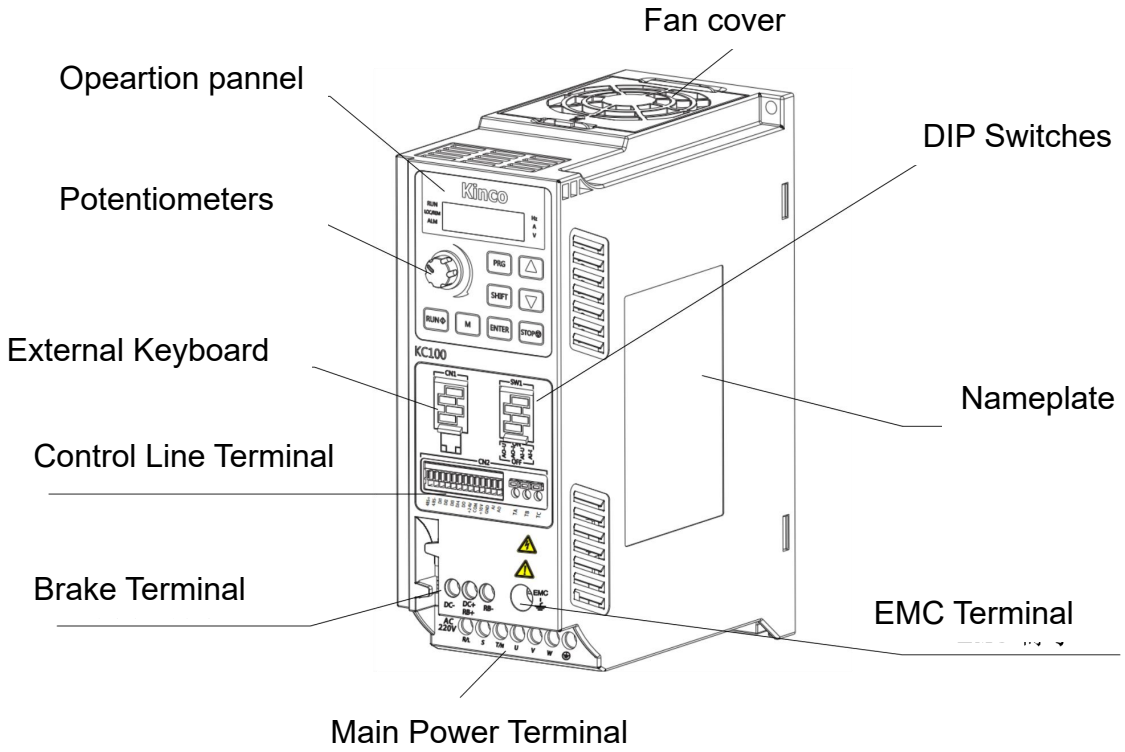
Product Component

1. The operating panel is integrated into the body, non-removable, and comes with a panel potentiometer.

2. An optional external guide operator panel is available.

3. Brake unit fitted as standard.

4. DIP switches for selecting an alogue signals as voltage or current signals.



1 Product introduction

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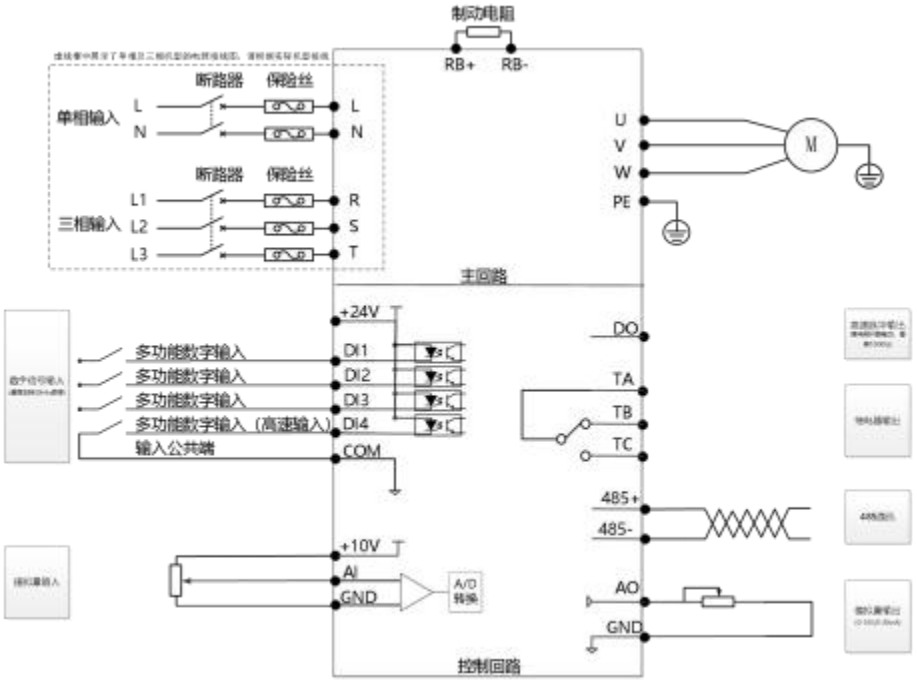
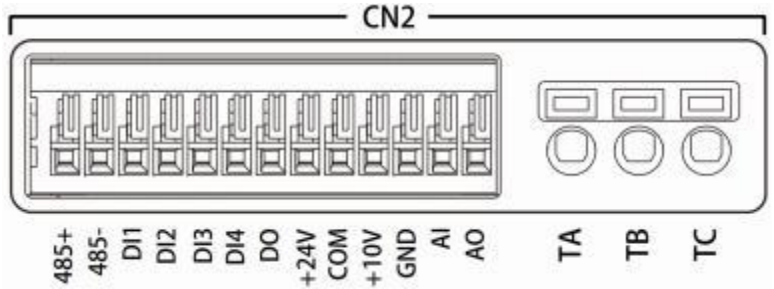
Control terminal

- 4*DI, of which DI 4 supports pulse input up to 50KHz
- 1*AI, support voltage and current
- 1*AO, support voltage and current
- 1*DO, support up to 50KHz pulse output
- 1*relay output terminal, support normally open and normally closed output
- 1*485 communication terminal, support standard MODBUS communication protocol

Adopting European crimping terminal, more convenient wiring, IO terminal without tightening screws, can improve the assembly efficiency by 30%, and achieve the rapid start of manual.





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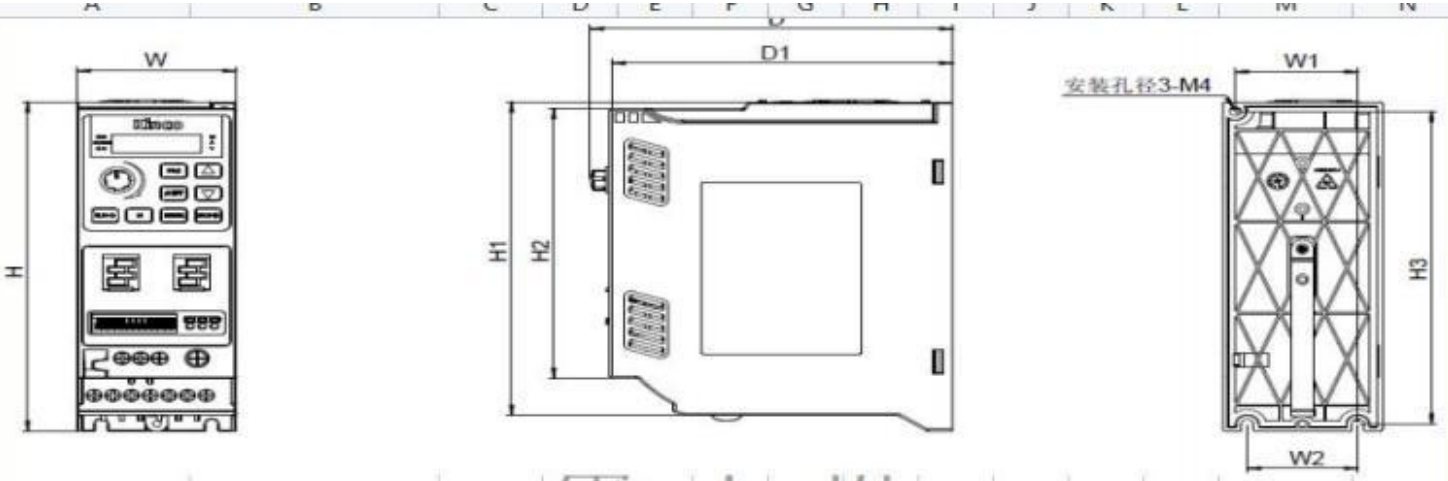
Structure and Dimension

Narrow book design, the whole series is as narrow as 65㎜, and the mounting method can be guide rail, vertical, or side mounting, which saves more than 20% of mounting space compared with the old products.



电压等级	规格型号	功率（kW）	外形尺寸（mm）						安装孔位（mm）			安装孔径（mm）	重量（kg）
			W	H	H1	H2	D	D1	W1	W2	W3		
单相220VAC	KC100-2S-0R40G	0.4	65	177	168.5	145	148	139	50	45	168	3-M4	
	KC100-2S-0R75G	0.75											
三相380VAC	KC100-4T-0R75G	0.75											
	KC100-4T-01R5G	1.5											

电压等级	规格型号	功率/kW	外形尺寸（mm）						安装孔位（mm）			安装孔径（mm）	重量（kg）
			W	H	H1	H2	D	D1	W1	W2	W3		
单相220VAC	KC100-2S-01R5G	1.5	75	199	190	166	163	156	60.5	56	191	3-M4	
	KC100-2S-02R2G	2.2											
三相380VAC	KC100-4T-02R2G	2.2											
	KC100-4T-03R7G	3.7											
	KC100-4T-05R5G	5.5											

2 Competitor Comparison

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KC100 Competitor Hardware Comparison Report

- Terminal Wiring Layout& High-speed pulse input

Inverter Model / Terminal Wiring Layout	AC10(parker)	GD10(invt)	MD600（inovance)	KC100(Kinco)
Main Circuit Terminal	European Terminal	Conventional Terminal Block	Screwless Mounting Plug-in Terminal	European Terminal
Cable duct	None	None	None	With Cable duct
High speed pulse frequency	Supports frequency max 40kHz	No high-speed pulse input function	Max Frequency 20kHz	Supports frequency max 50kHz

2 Competitor Comparison

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KC100 Competitor Hardware Comparison Report

- Radiator Fan& Maximum output frequency

Inverter Model	AC10	GD10	MD600	KC100
Radiator Fan	No Independent air duct	Low power natural cooling, high power forced air cooling, above 40℃ be reduced rated power g use	Independent air duct design working temperature is 40° C~50° C, needs to be reduced rated power	Independent fan duct design No needs to be reduced rated power in high temperature environments (50° C).
Max frequency	500Hz	400Hz	590Hz	600Hz

2 Competitor Comparison

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KC100 Competitor Hardware Comparison Report

- Load capacity

Inverter Model	AC10	GD10	MD600	KC100
Load capacity	Automatic torque increase of 0.0%~100.0% in VF mode; Manual torque increase 0.0%~ 30.0%	In VF mode, the torque of the motor is increased by 0.1%~10.0%	Manual torque increase of 0.0%~100.0% in VF mode	1.5Hz under VF control can achieve stable operation with 150% load; SVC control mode, stable operation with 150% load can be achieved in the full speed range;

3 Comparison with old products

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Contrast	CV20	KC100
Current sensing	Single resistor bus current sensing	Multiple Hall current sensing
Inverter selection	Single-tube IGBT scheme	Module design
Thermal design	Aluminum substrate splicing	Aluminum profiles
Bus capacitance	Long Patchcord Connection	Wide circuit direct connection
Terminal function	Less function	More function
Fast current limiting	None	Hardware fast current limit function circuit
Control mode	VF control only, no vector function	Have open-loop vector function
Load capacity	VF control: 1Hz with up to 22% load Without SVC Control	VF, 150% load at 1.5Hz; SVC control: 150% load at 0.1Hz
Output frequency	0-300Hz	0-4000Hz
Protection features	Optimized output phase loss protection; Added detection protection for short circuits between phases and short to ground	

Product features

KC100 Software Features

More fault protection functions

- Overvoltage, overcurrent fault protection
- Input phase loss, output phase loss
- Overload (frequency converter, motor, pre-alarm)
- Short-to-phase and short-to-ground faults
- SVC stall faults
- Inverter module overtemperature, parameter teach-in fault, current detection fault, buffer resistance overload fault, etc.