



H100 Series High Performance Vector Frequency Inverter

Power Range: 0.75kW-800kW



Official website

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HuaYuan Electric

Huayuan Electric is a branch company of Beijing Huayuan Group; Specialized in developing, manufacturing, selling of industrial automatic products, also committed to provide excellent integrated solutions!

As a new-rising force in high-tech area in Huayuan Group, Huayuan Electric is in accordance with Huayuan Group's spirit 'Tenacity, Unity, exploration, Struggle', taking up the mission of improving national industry automation progress, upholding the design & development of Independent intellectual property rights, working hard at domestic market, established famous brand in this industry, and expanding our business in international market. Huayuan Electric determined to be a reliable partner to constantly create value for customers & users.

Products covered: Variable-frequency Drive, Servo Drives, UPS, which are widely applied to machine tools, package, textiles, ceramic, mine, food, chemical, transfer, data center, etc.

Huayuan Electric obtained many patents after established, including over 20 patents of invention; over 50 patents of appearance design, over 50 patents of utility model, fully demonstrating our innovative ability and providing a strong technical support for product promotion.



Product Introduction

H100 series high performance vector frequency inverter is the new generation of general inverters which is developed by HuaYuan Electric independently, covering the full power range of 4.0kW-800kW. It supports VF control, open-loop vector control and closed-loop vector control, and can be widely used in the speed control of asynchronous motors and permanent magnet synchronous motors. Designed with the "people-oriented" principle in mind, our product could meet and even exceed customers' expectations, enhancing their market competitiveness.

The H100 series brings customers an unparalleled user-friendly design experience, with a new generation of silicone keypad for more comfortable operation.

The product is also equipped with a variety of expansion functions, which support the use of different function expansion cards based on customers' needs.

In reality, the independent air duct design improves the product's overall reliability.



Humanized Design

Product Details



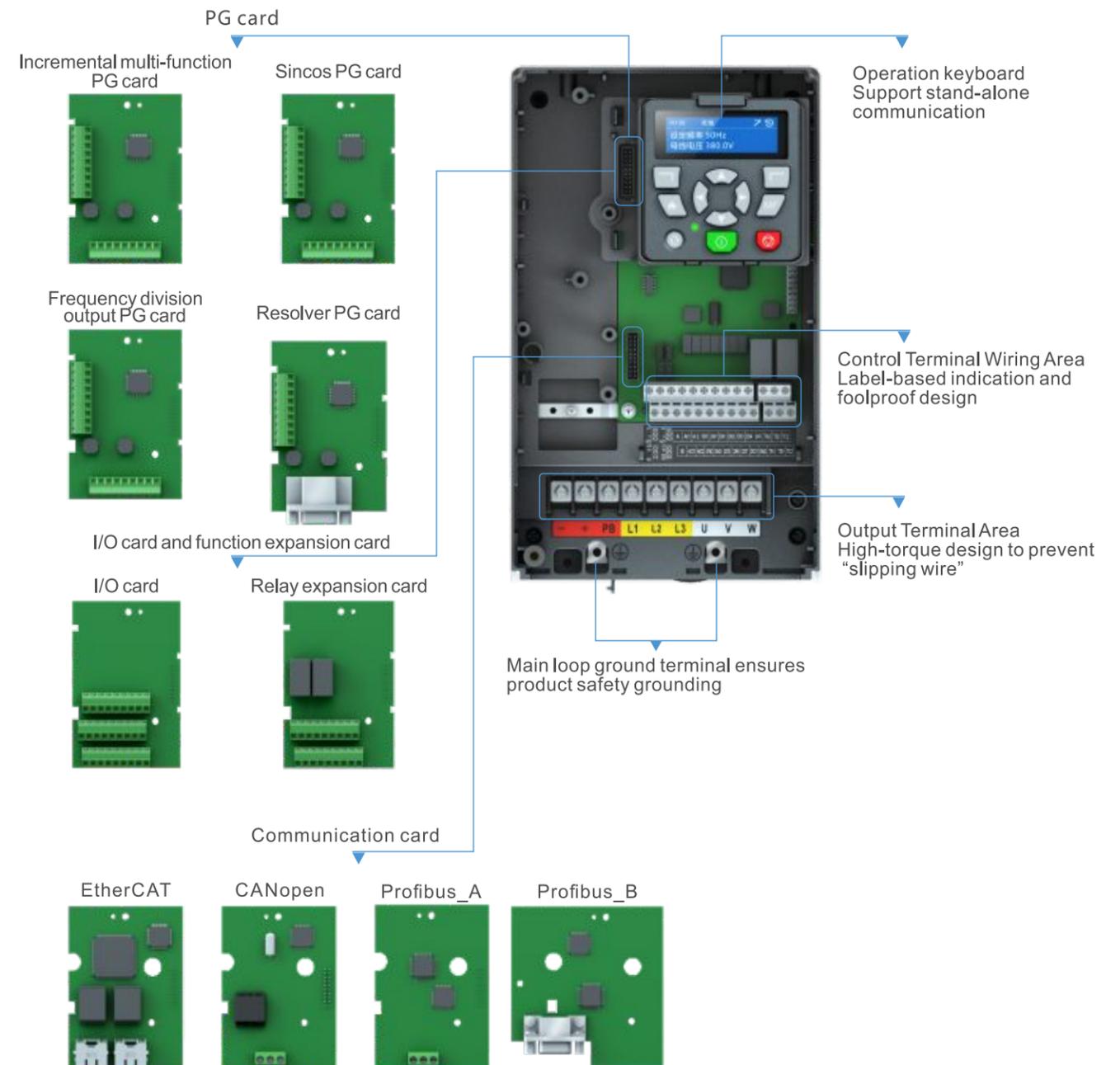
Operation Keyboard

- Models of 22kW and below are equipped with single-display keyboard VDP-SE21 as standard
 Models of -30kW and above are equipped with dual-display keyboard VDP-BT21 as standard
- Ergonomic appearance, silicone material buttons and large-size shuttle design, comfortable touch and convenient operation
- Keyboard size conforms to DIN German Industrial Standard
 Single display keyboard VDP-SE21: 72mmX72mm
 Dual display keyboard VDP-BT21: 72mmX120mm
- Support parameter copy and download
- Support external keypad, the maximum length is 200 meters, optional independent keyboard tray



Modular Design

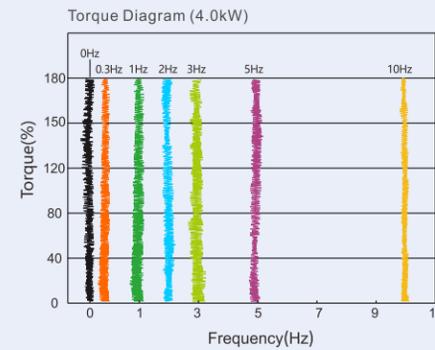
Diverse expansion interfaces, which supports a variety of PG cards, I/O expansion cards, function expansion cards, and communication expansion cards, are needed in order to enhance product functionality and meet customers' different applications.



Excellent Product Performance

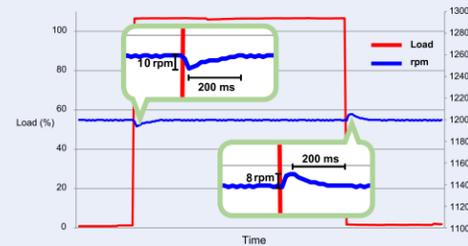
High starting torque

- Open loop control (SVC): 0.5Hz can produce 150% high starting torque
- Closed loop control (FVC): 0Hz can produce 180% high starting torque



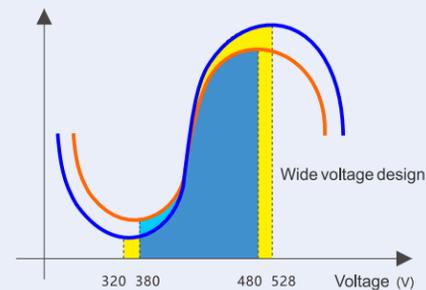
Fast response to impact loads

- It enables fast speed recovery and reduces speed fluctuations in response to load transients in order to guarantee production stability and product quality



Strong adaptability to voltage fluctuations

- Voltage rating: 4T 380–480 V
- Frequency rating: 50/60 Hz
- Allowable voltage fluctuation range: 320V–528V
- Degree of unbalance: < 3%
- Frequency range: 47–63 Hz



Speed tracking

- The product supports both hardware and software speed tracking.
- Fast and accurate tracking to the current frequency, smooth, and impact-free start-up



315kW speed start oscillogram

Rich Product Features

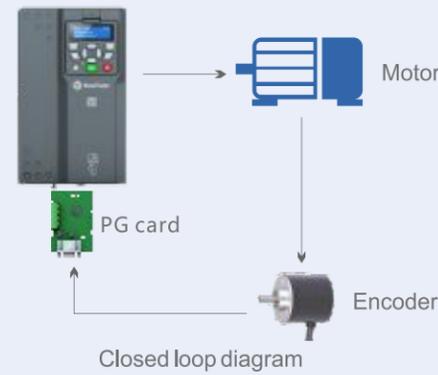
Applicable to various motors

- It is suitable for vector drive of various induction motors and permanent magnet synchronous motors, and the motor parameters are self-adaptive to ensure vector control performance



Support multiple control methods

- Support VF control, open loop vector control, closed loop vector control
- Integrated stop positioning, frequency division output, servo fixed angle, servo fixed length and other functions
- Servo positioning function can realize simple servo functions such as spindle positioning at any angle, pulse positioning, stop angle, etc.



Perfect braking function

- Flux braking, stop DC braking, dynamic braking
- For small energy feedback loads, the magnetic flux braking function can also ensure the rapid start and stop of the equipment without connecting the braking resistor, improving production efficiency and saving costs



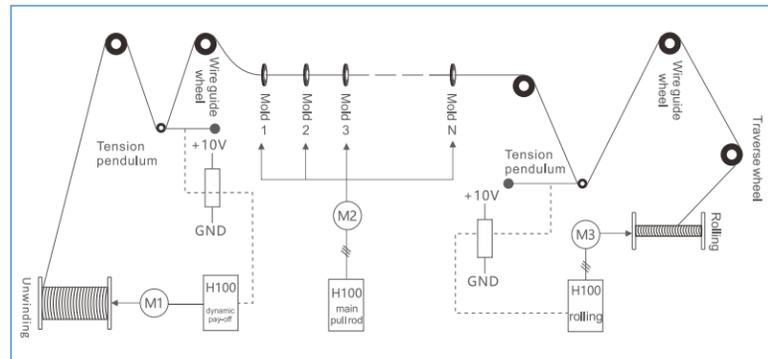
Flux braking active



Flux braking not working

Rich Product Features

Industry expansion

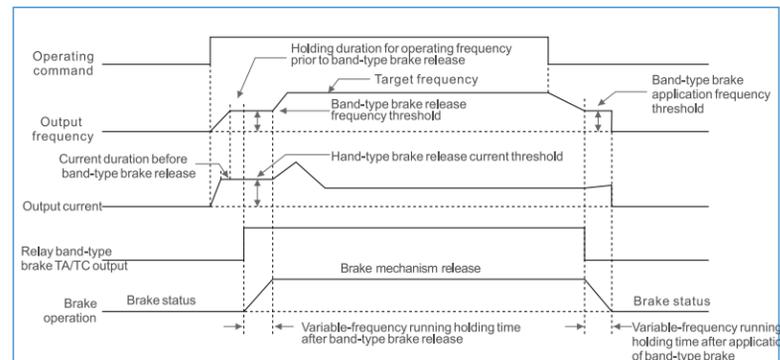


◀ Schematic of a wire drawing machine with variable-frequency control, active paying-off, and constant tension take-up

■ A special parameter set for wire drawing machines satisfies the application requirements of the cable industry, such as power take-up and pay-off, double variable-frequency water tank wire drawing machines, straight wire drawing machines, etc.

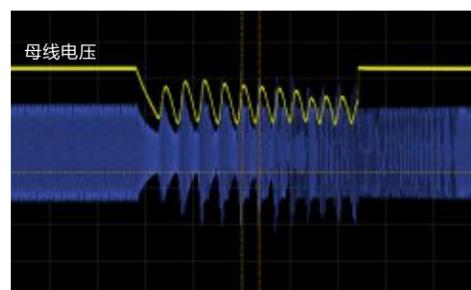
A logic timing diagram of a band-type brake ▶

- The logic parameter set of the brake meets the lifting industry's application requirements.
- Special parameter group for pumps, which can meet the needs of pump jamming and pump unblocking in petroleum and other industries.



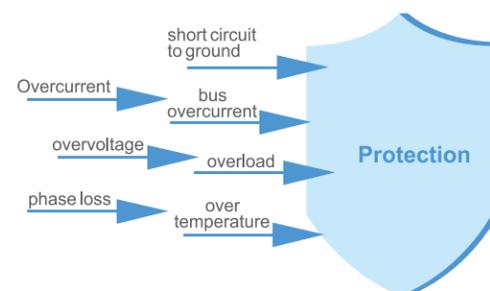
Non-stop function after a sudden halt

In the event of a sudden power outage, the inverter can continue to run normally for a certain period of time. This function makes the product particularly applicable in scenarios where continuous operation is of the utmost importance.

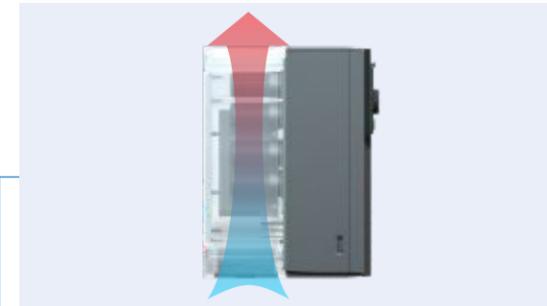


Protection function

Rich protection function design, effectively ensuring product safety and stability



Superior Environmental Adaptability



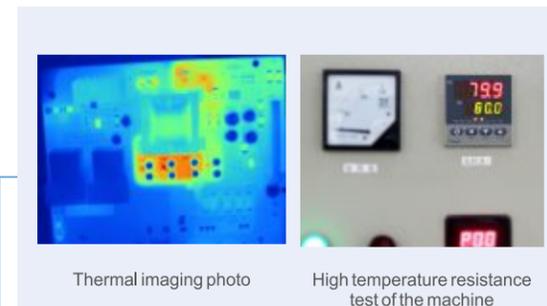
Independent duct design

- Fully independent air duct design that could prevent pollutants from entering the area of electronic components, enhance protection effects, and make the product applicable to various environments.
- The side and top surfaces of the upper cavity are designed without ventilation holes that could effectively prevent pollutants from entering under the premise of guaranteeing temperature rise in order to effectively isolate the upper and lower parts.



Automatic spraying process of three-proof paint

- The product is coated with a high-quality three-proof paint in order to effectively prevent dust, corrosion, and moisture, as well as improve the circuit board's resistance to acid, alkali, and corrosion.
- The three-proof paint is automatically sprayed, which effectively ensures uniform spraying thickness of the circuit board and the consistency of products in the same batch.
- Multi-coating is supported for industries with special requirements in order to enhance the circuit board's environmental resistance.

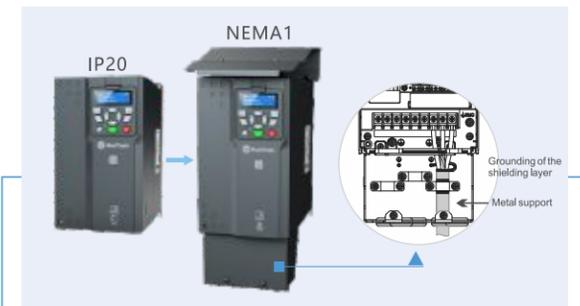


Thermal imaging photo

High temperature resistance test of the machine

Temperature rise test standard of the whole machine

- The product has undergone rigorous board-level thermal verification test during the development stage in order to ensure thermal reliability within the range of designed power.
- The product has undergone full load and overload thermal verification tests during the machine verification stage. Moreover, it also strictly adheres to thermal stress reduction standards.
- The entire machine can operate continuously in a high-temperature environment.



Safety protection

- The standard product could satisfy IP20 protection requirements.
- NEMA1 protection is optional.
- Support the grounding of the cable shielding layer with a metal bracket (optional).
- The shielding layer can be grounded safely through the metal bracket.

Product Nameplate and Model Descriptions

Descriptions of nameplate contents

Technical parameters

Certification mark

Product S/N

IP rating

Official website

Industry Application

The product is primarily applicable to domestic markets supporting equipment such as centrifuges, extruders, industrial washing machines, wire drawing machines, the renovation of production lines for textile, injection molding, chemical fiber, cement, ceramics, etc., as well as large projects of fans and pumps in industries such as petrochemical, oil refining, thermal power, water supply, heat supply, etc.



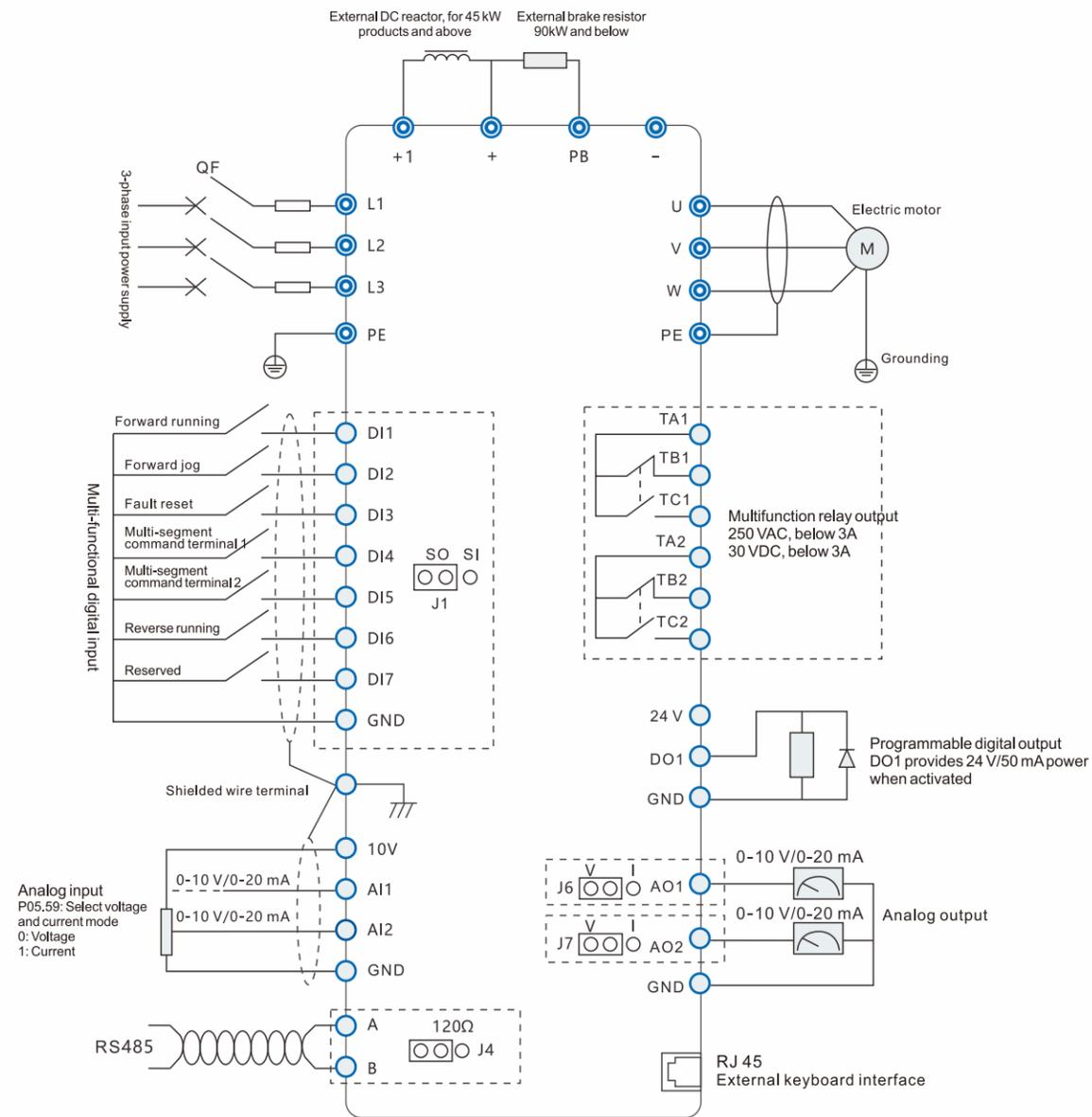
Descriptions of product models

H100 - 4T 0040 1 N/L - A

① ② ③ ④ ⑤ ⑥

① Name of the product series	② Voltage class 2S: Single-phase 220 2T: Three-phase 220 V 4T: Three-phase 380V	③ Power class 0007: 0.75 kW 0015: 1.5 kW ... 0150: 15 kW
④ Power digits 1: <10kW 2: 10~99kW 3: 100~999kW	⑤ Applicable motor type N: Universal L: Fans and water pumps	⑥ Structural frame A: Size A B: Size B ...

System Wiring Diagram



Note:
 Jumper J6: AO1 input 0-10 V, 0-20 mA selection
 Jumper J7: AO2 output 0-10 V, 0-20 mA selection
 Jumper J1: DI input drain and source selection
 Jumper J4: RS485 termination resistor selection

Technical Parameters

Models	General load (G-type)			Fan and pump load (P-type)		
	Rated volume (kVA)	Rated output current(A)	Motor power (kW)	Rated volume (kVA)	Rated output current(A)	Motor power (kW)
H100-4T0007N-A0	1.7	2.5	0.75	-	-	-
H100-4T0015N-A0	2.6	4	1.5	-	-	-
H100-4T0022N-A0	3.4	5.2	2.2	-	-	-
H100-4T00401N/L-A	5.9	10	4	8.6	13	5.5
H100-4T00551N/L-A	8.6	13	5.5	11.2	17	7.5
H100-4T00751N/L-B	11.2	17	7.5	16.5	25	11
H100-4T01102N/L-B	16.5	25	11	21	32	15
H100-4T01502N/L-C	21	32	15	25	38	18.5
H100-4T01852N/L-C	25	38	18.5	30	45	22
H100-4T02202N/L-C	30	45	22	40	60	30
H100-4T03002N/L-D	40	60	30	50	75	37
H100-4T03702N/L-D	50	75	37	60	90	45
H100-4T04502N/L-E	60	90	45	75	110	55
H100-4T05502N/L-E	75	110	55	99	150	75
H100-4T07502N/L-F	99	150	75	116	176	90
H100-4T09002N/L-F	116	176	90	139	210	110
H100-4T11003N/L-G	139	210	110	164	250	132
H100-4T13203N/L-G	164	250	132	197	300	160
H100-4T16003N/L-G	197	300	160	224	340	185
H100-4T18503N/L-H	224	340	185	250	380	200
H100-4T20003N/L-H	250	380	200	273	415	220
H100-4T22003N/L-H	273	415	220	309	470	250
H100-4T25003N/L-H	309	470	250	342	520	280
H100-4T28003N/L-J	342	520	280	395	600	315
H100-4T31503N/L-J	395	600	315	421	650	350
H100-4T35003N/L-J	421	650	350	454	720	400
H100-4T40003N/L-J	454	720	400	530	810	450

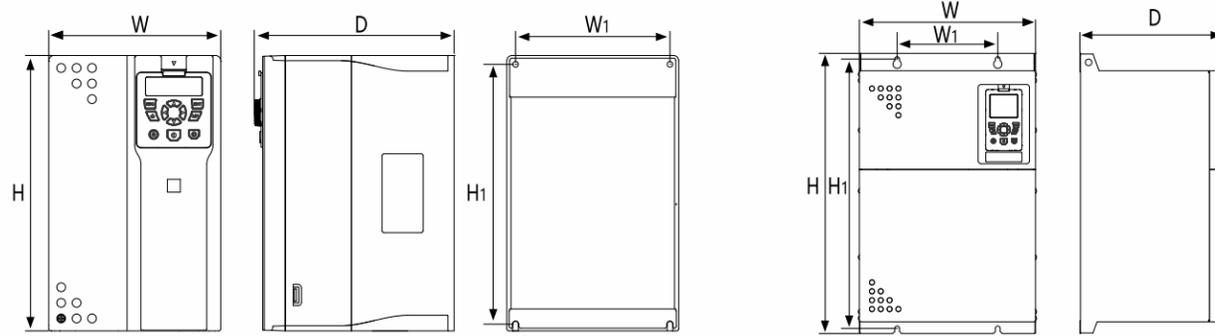
Technical Specifications

Item		Specifications	
Input	Rated voltage, frequency	4T: 380 V, 50/60 Hz	
	Allowable voltage range	Range: 320-528V, degree of unbalance: <3%, frequency range: 47-63 Hz	
Output	Output voltage	0 - INPUT	
	Output frequency	0 - 320 Hz	
	Overload capacity (160KW below)	G: 150% - 60s, 180% - 3s, 200% - 0.5s P: 120% - 60s, 150% - 3s, 180% - 0.5s	
Control features	Control mode	V/F control, open-loop vector control (SCV), close-loop vector control (FVC)	
	Starting torque	0.25 Hz 150% (SVC); 0 Hz 180% (FVC)	
	Range of speed regulation	1:100 (V/F); 1:200 (SVC); 1:1000 (FVC)	
	Steady speed precision	≤±0.5% (SVC); ≤±0.02% (FVC)	
	Speed fluctuation	≤±0.5% (SVC)	
	Torque response	≤20 ms (SVC)	
	Frequency precision	Low frequency mode	High frequency mode
		Digital setting: 0.01 Hz Analog setting: Max frequency ×0.2%	Digital setting: 0.1 Hz Analog setting: Max frequency ×0.2%
	Frequency resolution	0.01 Hz	0.1 Hz
	Modulation system	SVPWM	
	Carrier frequency	0.5- 16 KHz, based on model	
	Auto carrier adjustment	When the function is activated, the inverter can automatically adjust carrier frequency based on the temperature inside	
	Torque boost	In V/F control mode, the torque can increase by 0.1% -30% manually.	
	Torque curve	0: User customized V/F curve; 1: 2 power curve; 2: 1.7 power curve; 3: 1.2 power curve	
	Acceleration and deceleration time	0-6500.0 s, linear or sigmoid curve acceleration and deceleration mode, optional 4 groups of acceleration and deceleration time	
	Basic functions	Inching function	Frequency range: 0.00-50.00 Hz
			Acceleration and deceleration time: 0.1 – 6500.0 s
Simple PLC, multi speeds		Up to 16 speeds can be achieved through built-in PLC function and control terminal function	
Internal PID		To achieve close-loop control	
Wakeup		Process PID has sleep and wakeup function	
Torque limit		The torque is limited during speed control to prevent frequent over-current alarm	
DC brake		Starting frequency: 0.00 – max set frequency	
	DC braking time: 0.01 – 30.00s (0.0: not activated)		
	DC braking current: 0.0 – 100% rated current of the inverter		

Item		Specifications
Basic functions	Auto voltage regulation (AVR)	When the input voltage deviates from the rated voltage, the function can be used to regulate the output voltage, so that AVR should be activated under normal circumstance, especially when the input voltage is higher than the rated voltage
	Auto current limiting	When the input current reaches the auto current limiting, the function can adjust output frequency of inverter, so that the current will not be over the auto current limiting. This function will farthest avoid over current fault of inverter to keep the inverter uninterruptedly working.
	Overvoltage stalling control	Used to control the voltage of DC bus during the running of the inverter to prevent overvoltage of DC bus
	MODBUS communication	Standard MODBUS communication protocol for rapid communication with peripherals
Special functions	Binding function	Operation command channel is bound with power input channel, without parameter setting
	Input terminal drain/source section	Through jumper terminal, drain or source can be chosen for DI1- DI7 to meet the needs in different cases
	Multi AI curve correction	Up to 4 points can be chosen to set AI curve for flexible and convenient curve correction
	Double motor parameters	Two sets of parameters of asynchronous inverters are stored to achieve the switching function between two different motors
	Virtual I / O port	5 virtual DIDO ports make complex logic control applications convenient
Operation and running	User customized parameter set	The customer can choose the required parameter set, sent to P14 as the custom parameter for daily view and modification
	Command source channel	Three modes, keyboard setting, external terminal setting, communication setting, switchable
	Frequency source channel	Digital setting, analog setting, pulse setting, multi-speed, communication setting etc. for selection
	Input terminal	7 digital input terminals, DI1-DI7, drain and source input can be chosen DI7 can be used as a high speed pulse input, supporting 12 V and 24 V level, the maximum frequency of 50 KHz
		2 analog input terminals AI1:0 – 10V or 0-20 mA can be chosen; AI2:0 – 10V can be chosen through parameter setting, 2 analog input terminals AI both can be used as digital input terminal DI
	Output terminal	1 programmable switch output, the output level is 24 V when open
2 programmable relay output, 250 VAC/3A 30VDC/ 3A		
2 analog output terminals, AO1:0-10 V or 0-20 mA can be chosen; AO2: 0-10V		

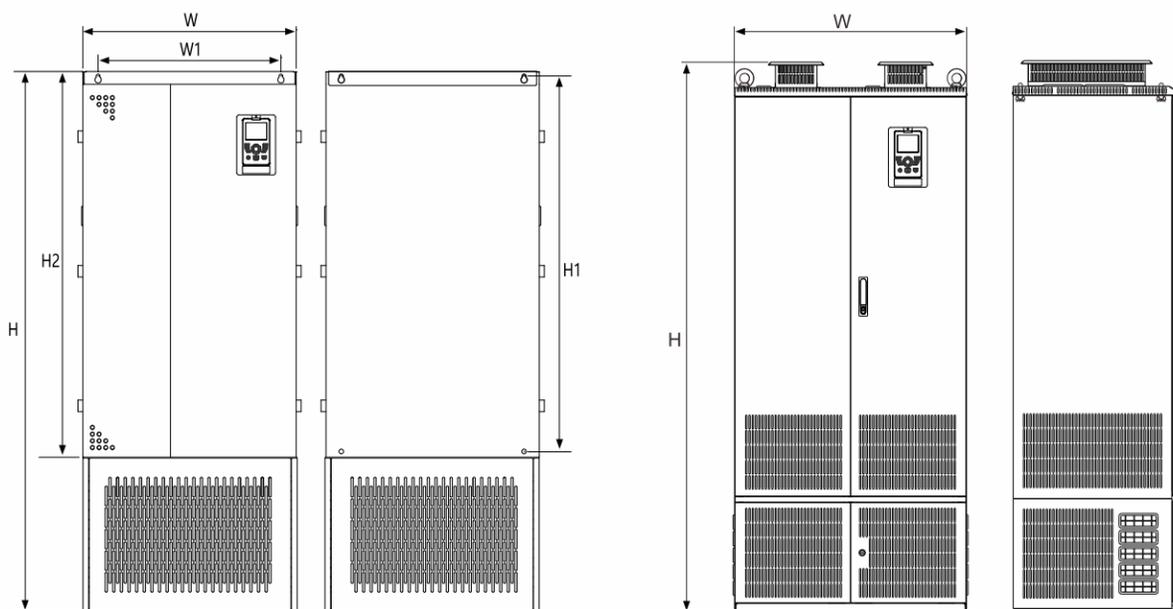
Installation Dimensions

(Unit:mm)



Frame A0/A/B/C/D

Frame E/F/G



Frame H/J

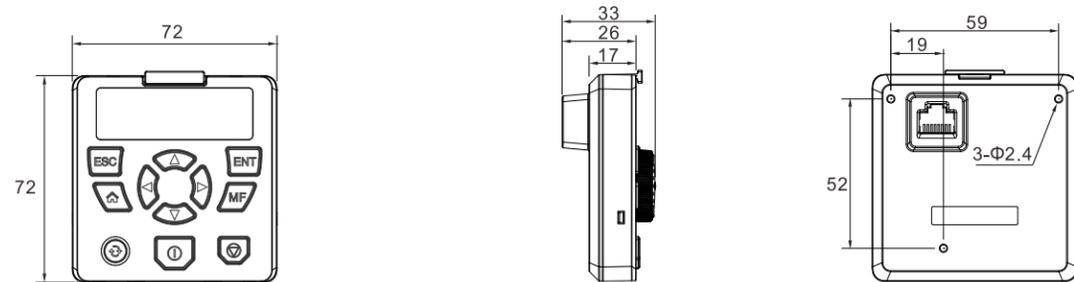
Frame K

Use M12 screw for installation

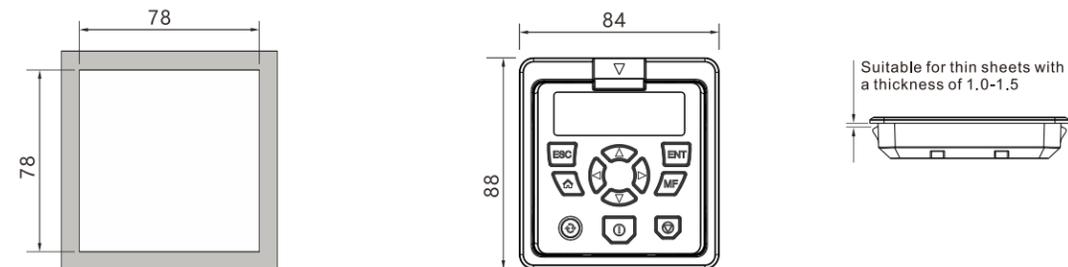
Frame	Models	Installation Dimensions					Overall Dimensions			Screw Size	Torque (kgf·cm)
		W1	H1	H2	C1	C2	W	H	D		
A0	H100-4T0007N-A0 H100-4T0015N-A0 H100-4T0022N-A0	76	174	—	—	—	87	180	146	M5	30±10%
A	H100-4T00401N/L-A H100-4T00551N/L-A	132	224	—	—	—	143	235	184	M5	30±10%
B	H100-4T00751N/L-B H100-4T01102N/L-B	150	250	—	—	—	167	265	195	M5	30±10%
C	H100-4T01502N/L-C H100-4T01852N/L-C H100-4T02202N/L-C	183	285	—	—	—	200	300	210	M5	30±10%
D	H100-4T03002N/L-D H100-4T03702N/L-D	218	343	—	—	—	235	360	220	M6	45±10%
E	H100-4T04502N/L-E H100-4T05502N/L-E	200	530	—	—	—	350	550	285	M8	110±10%
F	H100-4T07502N/L-F H100-4T09002N/L-F	200	615	—	—	—	350	635	305	M8	110±10%
G	H100-4T11003N/L-G H100-4T13203N/L-G H100-4T16003N/L-G	300	770	—	—	—	450	800	380	M8	110±10%
H	H100-4T18503N/L-H H100-4T20003N/L-H H100-4T22003N/L-H H100-4T25003N/L-H	400	970	1000	476	290	560	1400	380	M12	390±10%
J	H100-4T28003N/L-J H100-4T31503N/L-J H100-4T35003N/L-J H100-4T40003N/L-J	510	970	1000	586	290	670	1400	380	M12	390±10%
K	H100-4T45003N-K H100-4T50003N-K H100-4T63003N-K H100-4T80003N-K	—	—	—	885	500	854	2000	600	M12	390±10%

Optional Keyboard Installation Size (Unit:mm)

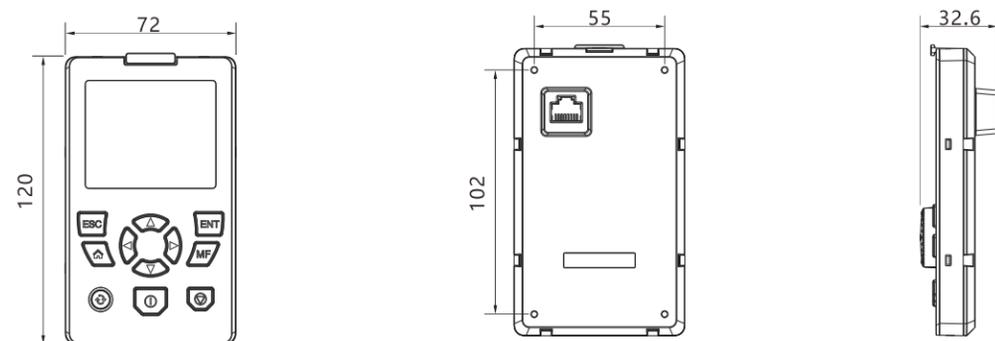
Single-display keyboard model: VDP-SE21



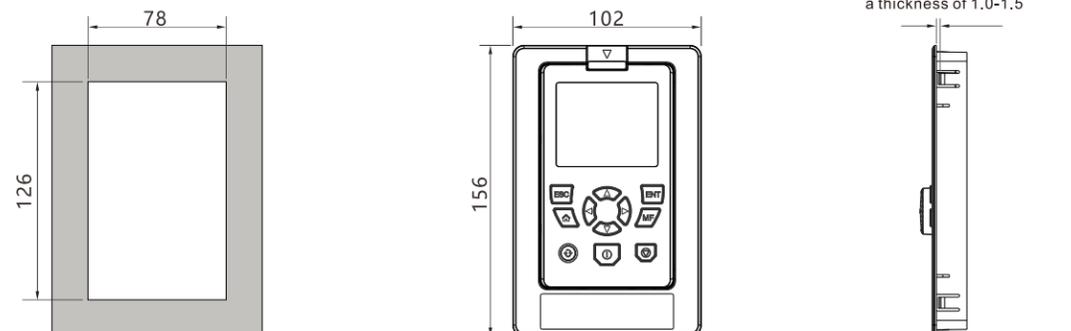
Schematic diagram of installation size of keyboard bottom bracket



Double display keyboard model: VDP-BT22



Schematic diagram of keyboard bracket (VDFPH-4) installation size



Sales and service network



Vision: To be the globally leading supplier for products of industrial automation and integrated solutions!

Mission: Focus on customer demand to create competitive advantage for customer
Expand employee potential to create development space for employee.

Spirit: Tenacity, unity, exploration, struggle

Core values: Be responsible, cooperative, innovative, and win-win.