DELIXI
ELECTRIC

SD100
General Series Inverter

Stable Performance and High Accuracy

AC 1 PH 220±15%V, 0.4-2.2kW

AC 3 PH 380±15%V, 0.75-18.5kW

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Protect Electricity Safety Create Beauty Of Life

■ Product Overview

The **SD100** series inverter is a mini-type low-power inverter with optimum SVC and V/F control, stable performance and simplified functions. It reserves the configuration most-frequently used by users, and can be extended with several I/O and communication interfaces.

Benefits

1、Small size and easy operation; Embedded with DC brake function and can have optional external brake unit; Accuracy of stop position.

2、Separate keyboard that supports hot plug and can be pulled out to a distance of 50m at most; a copy keyboard with parameter control is optional.

3、Extensible RS485 communication interface which enables standard MODBUS-RTU communication and can be compatible with a variety of host computers.

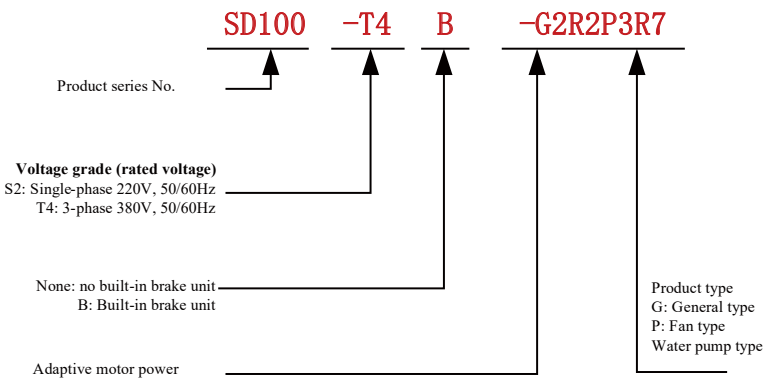
4、Long service-life with a controllable fan; the AVR (Automatic Voltage Regulation) function ensures large output torque in case of low input voltage.

5、Multiple protection functions to ensure safe and reliable operation of the motor.All standard products have been treated with conformal coatings.

6、Air-duct isolated by windshields to ensure good thermal dissipation and thus significantly improved adaption to the environment.

Data and Naming Rules of Nameplate

Taking Model SD100-T4B-G2R2P3R7 as example:



■ Product List

Inverter Model	Rated Capacity	Rated Input Current	Rated Output Current	Adaptive Motor
	(kVA)	(A)	(A)	(kW)
S2 (single-phase 220V,50/60Hz)				
SD100-S2-G0R4	0.8	5.0	3.0	0.4
SD100-S2B-G0R4	0.8	5.0	3.0	0.4
SD100-S2-G0R75	1.5	9.0	5.0	0.75
SD100-S2B-G0R75	1.5	9.0	5.0	0.75
SD100-S2-G1R5	2.7	15.7	7.0	1.5
SD100-S2B-G1R5	2.7	15.7	7.0	1.5
SD100-S2-G2R2	3.8	27.0	10.0	2.2
SD100-S2B-G2R2	3.8	27.0	10.0	2.2
T4 (3-phase 380V, 50/60Hz)				
SD100-T4B-G0R75P1R5	1.5	4.4	3.0	Type G Machine 0.75
	3.0	6.0	4.5	Type P Machine 1.5
SD100-T4B-G1R5P2R2	3.0	6.0	4.5	Type G Machine 1.5
	4.0	6.8	6.0	Type P Machine 2.2
SD100-T4B-G2R2P3R7	4.0	6.8	6.0	Type G Machine 2.2
	5.9	11.0	9.5	Type P Machine 3.7
SD100-T4B-G3R7P5R5	5.9	11.0	9.5	Type G Machine 3.7
	8.5	15.5	13.0	Type P Machine 5.5
SD100-T4B-G5R5P7R5	8.5	15.5	13.0	Type G Machine 5.5
	11.0	20.5	17.0	Type P Machine 7.5
SD100-T4B-G7R5P011	11.0	20.5	17.0	Type G Machine 7.5
	17.0	26.0	22.0	Type P Machine 11
SD100-T4B-G011P015	17.0	26.0	25.0	Type G Machine 11
	21.0	35.0	32.0	Type P Machine 15
SD100-T4B-G015P18R5	21.0	35.0	32.0	Type G Machine 15
	24.0	38.5	37.0	Type P Machine 18.5

Ordering Instructions:

Please mark the product model and specification when placing an order. It is recommended to supplement other data, such as motor parameters and load. For any special requirements, please contact our Technology Department.

■ Technical Specification

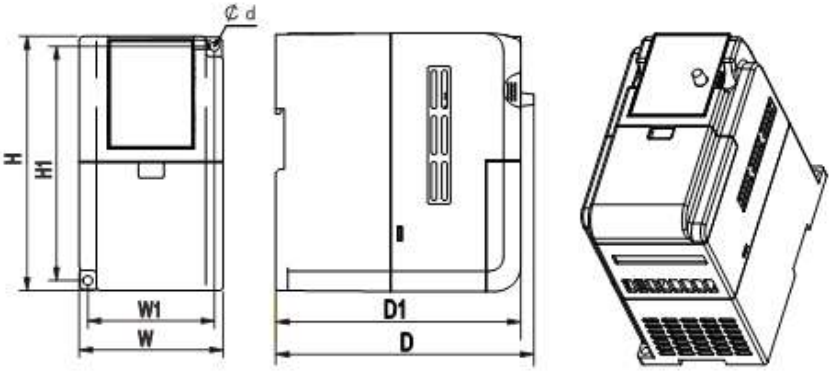
Item		Specification
Control	Control mode	V/F control Split ring vector control (SVC)
	Frequency accuracy	Digital quantity: 0.02% Analog quantity: 0.1%
	V/F curve	Linear, square, random V/F
	Overload capability	Type G Machine: 150% rated current: 60s; 180% rated current: 3s
		Type P Machine: 120% rated current: 60s; 150% rated current: 3s
	Starting torque	Type G machine: 0.5Hz/150% (SVC);
		Type P Machine: 0.5Hz/120%
	Speed regulation range	1:100 (SVC) 1:40 (V/F)
	Stable speed accuracy	±0.5% (SVC)
	Torque control accuracy	Above 5HZ ±5% (SVC)
	Torque compensation	Manual torque compensation (0.1%~30.0%), auto torque compensation
Configuration	Control power supply +24V	Max. output current: 300mA
	Input terminal	4-way digital input terminal (DI1~DI4); support expansion of 2 ways (DI5~DI6) by connecting IO expansion card. 1-way analog input terminal (VF1); support expansion of 1 way (VF2) by connecting IO expansion card; it can be used as digital input terminal through setting. Note: VF1 can be used as voltage (0V~10V) or current (0/4mA~20mA) input, while VF2 can be used as voltage (0V~10V) input.
	Output terminal	1-way analog output terminal FM1, support expansion of 1 way (FM2) by connecting IO expansion card; it can output both voltage (0V~10V) and current (0mA~20mA) 1-way relay output T1, below DC30V/1A and below AC 250V/3A. 1-way collector open-circuit output (Y3), below DC 30V 50mA
Running	Running mode	Keyboard, terminal, RS485 communication
	Frequency source	14 primary frequency sources and 14 auxiliary frequency sources. Multiple combinations can be switched. Each frequency has diversified input modes: Keyboard potentiometer, external analog quantity, set figure, set pulse, multi-segment instruction, simplified PLC, communication, operation results, etc.
	Torque source	14 torque sources, including set figure, external analog quantity, set pulse, multi-segment instruction, communication, operation results.
	Acceleration/deceleration time	4 groups of straight lines (select and switch terminals by acceleration/deceleration time), S curve 1, S curve 2
	Emergency stop	Output of instantaneous interrupt inverter
	Multi-segment speed	Set 16-segment speed maximally; it can be switched through different combinations of multi-segment instruction terminals.
	Simplified PLC function	Support continuous run of 16-segment speed. The acceleration/deceleration and running period of each segment can be set independently
	Inching control	Inching frequency and inching acceleration/deceleration time can be set independently; besides, inching priority can be set under the running status
	Speed tracking	The Product can track the load speed for starting running
	Fixed-length and fixed-distance control	Realize fixed-length and fixed-length control function through the pulse input
	Counting control	Realize counting function through pulse input

■ Technical Specification

Item		Specification
Running	Swing frequency control	Applies to textile winding equipment
	Built-in PID	Realize closed-loop system of process control
	AVR function	Ensure constant output in case of grid voltage fluctuation
	DC braking	Realize fast and stable stop
	Slip compensation	Make compensation to the revolving speed due to load increase
	Hopping frequency	Avoid resonance with load
	Sag function	Balance the load of multiple motors which carry the same load
	Timing control	Realize auto shutdown of inverter when reaching the set time
	Built-in virtual delay relay	Realize simplified logic programming of multi-function output terminal function and digital input terminal signal; the logic results can be equivalent to the digital input terminal functions, or be outputted through the multi-function output terminals.
	Built-in timer	2 built-in timers, to collect the timing input signals and realize output of timing signals. The built-in timer can be used independently or jointly.
	Built-in operation module	1 built-in 4-way operation module. It can realize simple add, subtract, multiply and divide, size judgment and integral operation
Communication		The control board has no RS485 communication interface. Standard MODBUS-TCP protocol is supported (connect RS485 expansion card externally)
Encoder		Connect 1-way pulse signal of encoder only (only DI6 of SD100-IO expansion card in appendix can be connected)
Motor type		Support asynchronous motor
Display	Running information	Set frequency, output current, output voltage, busbar voltage, input signal, feedback value, module temperature, output frequency, motor synchronous speed. Press >> button to have circular display of 32 items maximally
	Error information	Save the historical information of 3 faults under the running status of fault protection. Each piece of fault information includes the frequency, current, busbar voltage, input/output terminal status at faulty condition.
Protection	Inverter protection	Overcurrent, overvoltage, module fault protection, under-voltage, overheat, overload, external fault protection, EEPROM fault protection, grounding protection, missing phase, etc.
	Inverter alarm	Stall protection, overload alarm
	Instantaneous power-off	Below 15ms: Continuous running Above 15ms: Allow auto restart
Environment	Ambient temperature	-10°C~40°C
	Storage environment	-20°C~65°C
	Ambient humidity	90%RH maximally (no condensation)
	Height/vibration	Below 1,000m, below 5.9m/s2 (=0.6g)
	Application location	No corrosive gas, inflammable gas, oil mist or dust and others
Cooling mode		Forced air cooling

■ Appearance & Installation Dimensions

Model 1



Model	W	W1	H	H1	D	D1	Φ d
SD100-S2-G0R4	84	74	152	140	148. 4	141	5. 5
SD100-S2B-G0R4							
SD100-S2-G0R75							
SD100-S2B-G0R75							
SD100-T4B-G0R75P1R5	84	77	152	144	148. 4	141	4. 5
SD100-T4B-G1R5P2R2							

Wiring diagram of main circuit:

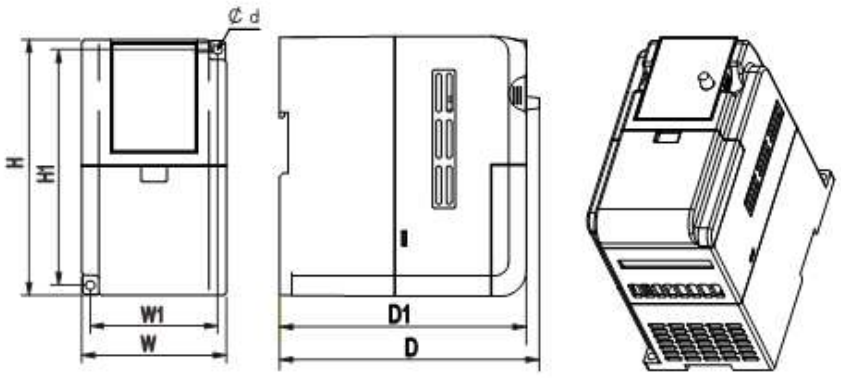
U	V	W	PB	P+	⏚	L1	L2

⏚	P+	PB	R	S	T	U	V	W

Note:

1. Plastic case model
2. The terminal arrangement is subject to the real product

Model 2



Model	W	W1	H	H1	D	D1	Φ d
SD100-S2-G1R5	105	95	165	153	161. 4	154	5. 5
SD100-S2B-G1R5							
SD100-S2-G2R2							
SD100-S2B-G2R2							
SD100-T4B-G2R2P3R7	105	95	165	155	161. 4	154	4. 5
SD100-T4B-G3R7P5R5							

Wiring diagram of main circuit

L1	L2	⏚	P+	PB	U	V	W

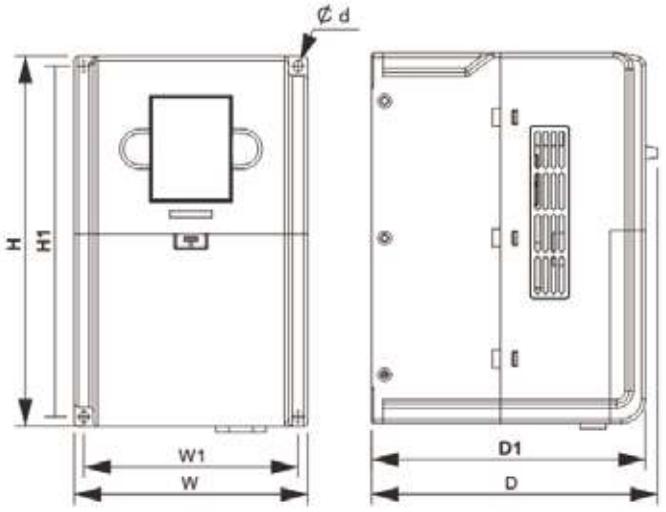
⏚	P+	PB	R	S	T	U	V	W

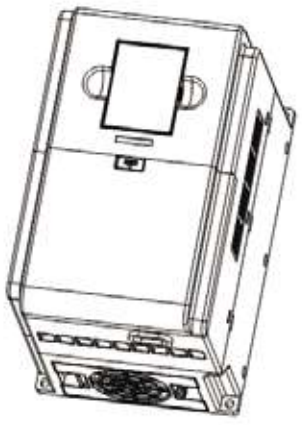
Note:

1. Plastic case model
2. The terminal arrangement is subject to the real product

■ Appearance & Installation Dimensions

Model 3





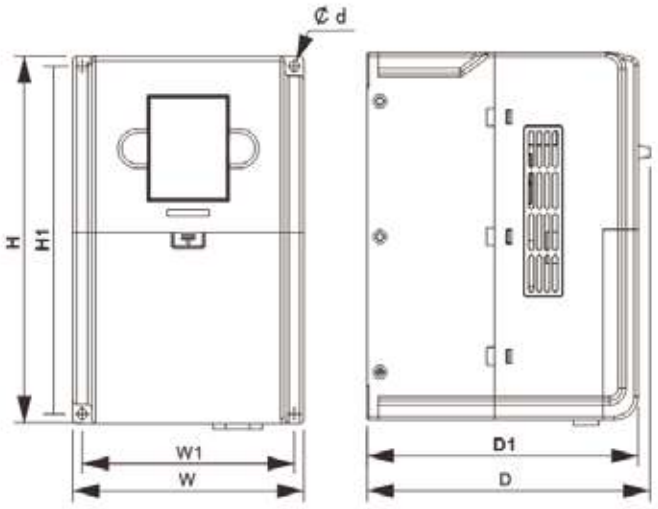
Wiring diagram of main circuit:

1. Plastic case model
2. The terminal arrangement is subject to the real product

Model	W	W1	H	H1	D	D1	Φ d
SD100-T4B-G5R5P7R5	145	133	230	218	177.4	170	5.5
SD100-T4B-G7R5P011							

	⏚	P+	PB	R	S	T	U	V	W

Model 4



Wiring diagram of main circuit:

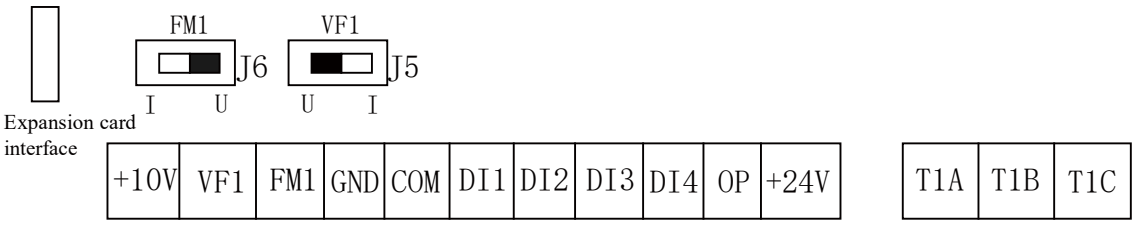
1. Plastic case model
2. The terminal arrangement is subject to the real product

Model	W	W1	H	H1	D	D1	Φ d
SD100-T4B-G011P015	180	168	285	273	167.4	160	5.5
SD100-T4B-G015P18R5							

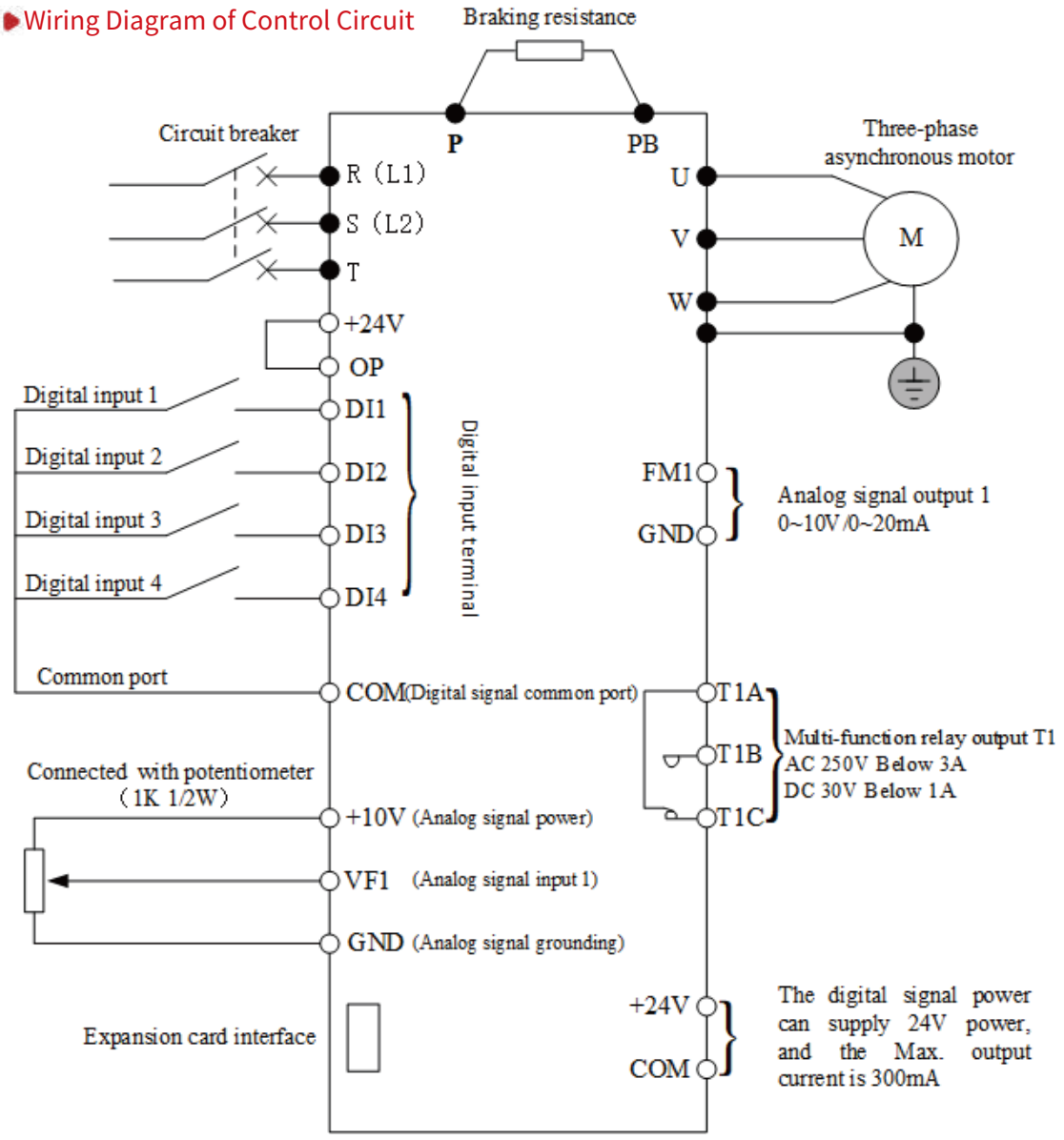
	⏚	P+	PB	R	S	T	U	V	W

■ Wiring of Control Circuit

Terminal Arrangement



Wiring Diagram of Control Circuit



Note：Connect L1/L2 for Type S2 Machine, or connect R/S/T for Type T4 Machine

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Folinn
Driving the future

Customize the new future

H1 series
Compact Inverter

Customize the new future

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ABOUT US

Zhejiang New Folinn Electric Co., Ltd, also called Folinn for short, was founded in 1994. Located at Wenling, the youngest costal city in China, and well-known manufacturing base in Yangtze River Delta.

We are specialized in manufacturing inverter, our market share has been in the forefront of the industry, is well-known inverter manufacture who engaged in the development, manufacturing and marketing of industrial automation control products in China.

We have 270 patented technologies and 21 software copyrights. The total building area of our factory is 35,000 square meters. And we have established three R&D centers in Taizhou, Hangzhou and Germany, sales network and after-sales service agencies have been throughout the main provinces and autonomous regions, exported to Europe and the United States, southeast Asia, the Middle East and other countries.

Folinn always adheres to the service concept of quality and customer first. Depends on the advantages of technology research and marketing channels, Folinn more actively expands its product line, and improves the core competitiveness in the market continuously, and provides high-quality electrical products and personalized solutions for electric power, new energy, machinery manufacturing and other fields.

Driving Follow Heart, Winning The Future!

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APPEARANCE INTRODUCTION

Compact & Flexible

H1 Series Compact Inverter

Based on the industrial application demand of high stability, small sizeand easy debugging,

Folinn has developed a new generation of compact inverter.

Support industry customization,
widely used in woodworking machinery,fans and water pump, food filling, ceramic machinery, textile machinery and other equipment

PRODUCT APPEARANCE
INTRODUCTION

Compact design, Customized interface

Easy detachable fan design

easy to replace, easy to clean, long life

Function Card

Press to remove it easily and can replace it with customized function card

Plug and unplug with power is strictly prohibited

Abundant display

LED keypad, LCD keypad

External operation panel

parameter copy, fault diagnosis, operation optimization, cloud connection

Independent air duct

Reliable heat dissipation
high protection level

Customized terminal

Customization cost rationalization according to industry characteristics and customer demands

European terminal

no need special tools, easy connection, save time

PANEL INTRODUCTION

TECHNICAL SPECIFICATIONS

	Item	Description
Input	Rated voltage, frequency	three phase: 380V~440V,50Hz/60Hz; single phase: 200V~240V,50Hz/60Hz
	voltage operating range	three phase: 380V~440V,50Hz/60Hz single phase: 200V~240V,50Hz/60Hz Voltage unbalance rate:<3%; frequency:±5%
Output	voltage	0-rated input voltage
	frequency	0Hz~1000Hz
	overload capacity	150% rated current 60s, 180% rated current 2s
main control performance	control mode	V/F/SVC
	modulation mode	Space vector PMW modulation
	motor type	asynchronous motor, synchronous motor, single motor (Please consult the manufacturer when using)
	start torque	0.5Hz/150% rated torque
	speed adjusting range	1:100(speed sensorless)
	frequency accuracy	digital setting: max. frequency ±0.01%; analog setting: max. frequency ±1%
	frequency resolution	
	acceleration and deceleration curve	line/S-curve
	current limiting	Automatic current limitation during operation to prevent frequent over current fault tripping
	instant power down	Support instant stop non-stop,1:100(speed sensorless)
operation function	command source	keypad, terminal, communication
	setting value source	digital, analog, multi-step speed, communication
	PID	support main setting+PID
	protection function	over current, over voltage, under voltage, over heat, over load, phase loss, earth leakage, output short circuit protection, etc
	communication	MODBUS RTU
Operation panel	digital tube display	output frequency, output current, output voltage, bus voltage, dispalyed value 1, displayed value 2, current alarm, current fault
	external keypad	support
Environment	applicable place	indoor, no direct sunlight, no dust, corrosive gas, combustible gas, oil mist, water vapor, water drop or salt, etc
	altitude	derating use if above 1000m, derating 10% for every 1000m increase.
	environment temperature	-10℃~+40℃(derating use if environment temperature is 40℃~50℃)
	humidity	5%~90% RH, non-condensation
	store temperature	-40℃~+70℃
	vibration	less than 5.9m/s(0.6g)

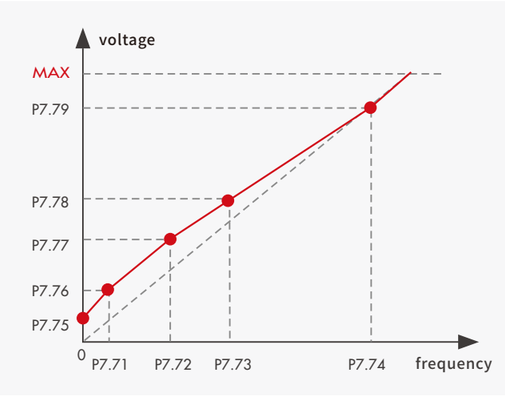
EXCELLENT PERFORMANCE

Compatibility drive:

Applicable to asynchronous motor, synchronous motor and single motor

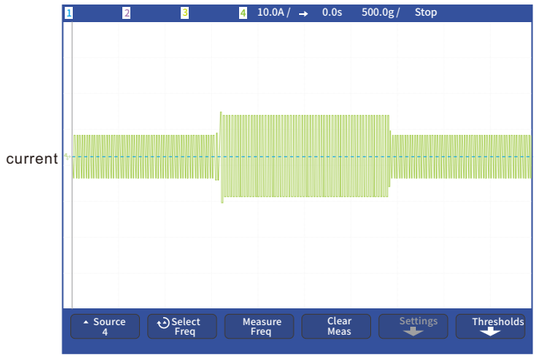
Adaptive vector control

Vector performance, VF convenience. The motor parameters are not sensitive and do not need self-learning.



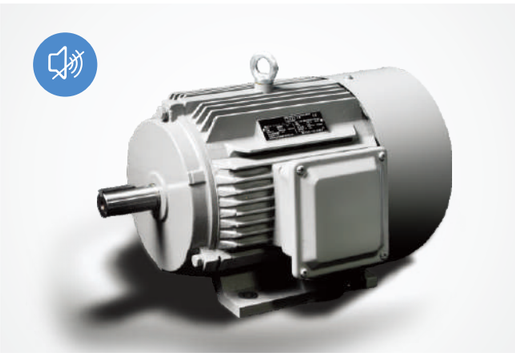
Wide range vector control

Frequency range 0-1000Hz, applicable to more motors, and ensures high performance when running with high speed



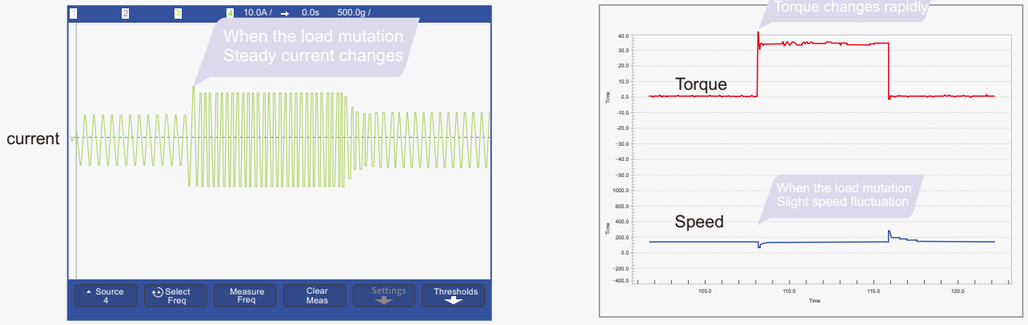
High carrier frequency

Max.16Hz, motor can work more quietly.



Fast current control

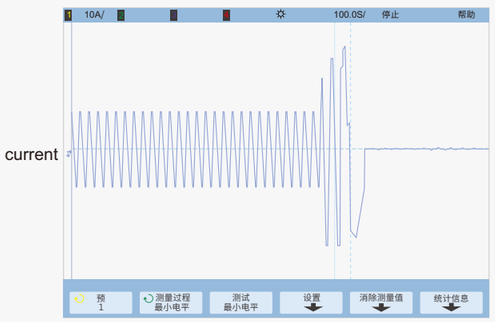
High dynamic response speed (15mS), fast start-up speed, small speed fluctuation.



The waveform of current, torque and speed when add load suddenly and unload with 2Hz 100% rated load

Bus voltage control:

Over-voltage control ensures deceleration at the fastest speed, magnetic flux braking realizes rapid deceleration when there is no braking resistor, and under-voltage control realizes non-stop function when instantaneous power-off.



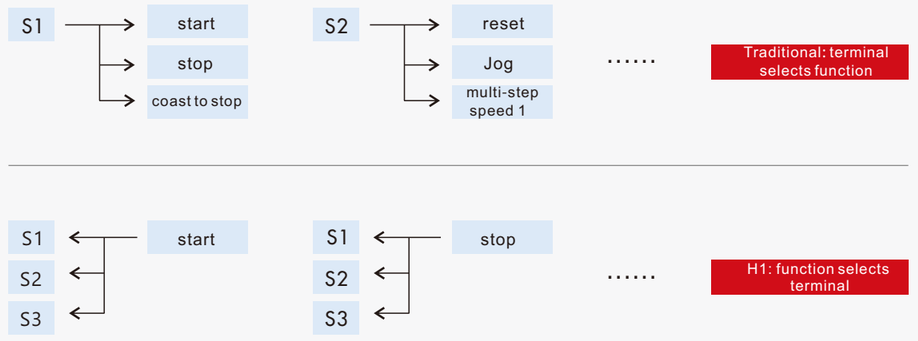
current waveform of magnetic flux brake,
50Hz 100% rated load deceleration time is 0. 1S

Instantaneous power non-stop waveform

POWERFUL FUNCTION

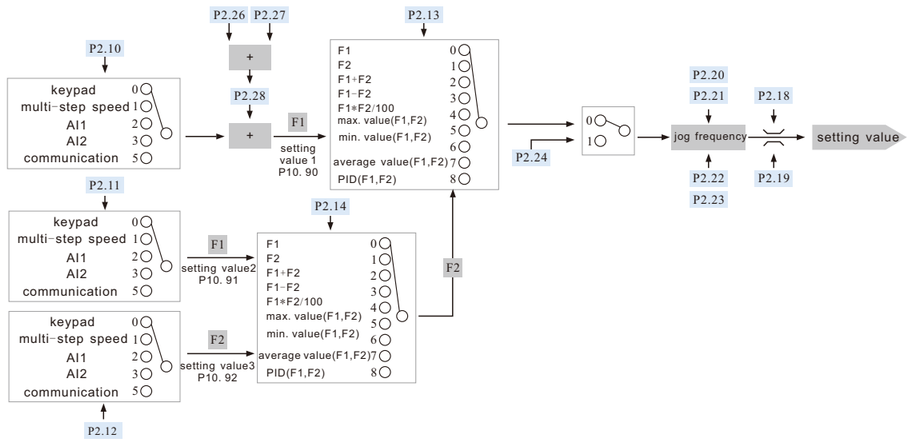
Easy to operate:

Select terminal source according to the required function, saving the number and type of terminal



Flexible function:

Flexible combination of setting values and commands, easily adapt to different applications



Abundant extended functions:

Provide various key-pad, communication, encoder, IO interface and other extension cards.

External operation panel type

Standard function card

Physical characteristics	Function Card											
	H10001	H10002	H10003	H10004	H10005	H10006	H10007	H10008	H10009	H10010	H10011	H10012
Digital input	4	3	4	8	2	2	3	2	2	4	4	3
Digital output								4	4			
Relay output	1		3	1	1	1	1	1	1	1	1	1
Analog input	1		1		2			1	1	1	1	1
Analog output					2			1	1			
Pulse input						1						
Pulse output						1						
Encoder input							1					
MODBUS	1	1	1	1	1	1	1	1	1	1	1	1
PROFIBUS								1				
CANBUS									1			
Bluetooth										1		
GPRS											1	
STO												1
Typical applications												

Application customization:

Complex application functions can be realized by programming, and customized function call can be realized by application macro

P1.63=0
P1.66=490
P1.67=5
P1.68=1090
P2.03=1
P2.04=1
P2.11=2
⋮

One-click setting → P1.20=84

Maintenance tools :

PC upper computer, mobile app and other tools provide perfect monitoring, configuration, optimization and diagnosis services

SOLID HARDWARE

Independent air duct:

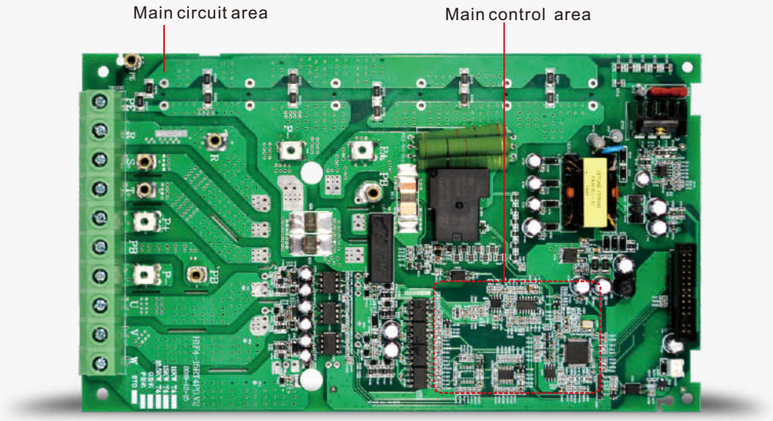
No forced wind flows through the components, improving environmental adaptability.

Fast and tight protection:

Short circuit fault, input / output phase loss, overload, leakage, etc., fully protect the inverter and motor.

Integrated design:

Reduce the number of boards and flying wires, eliminate potential fault points with the greatest extent, and maximize performance the electrical and EMC with high-efficient.



Delicate heat dissipation design:

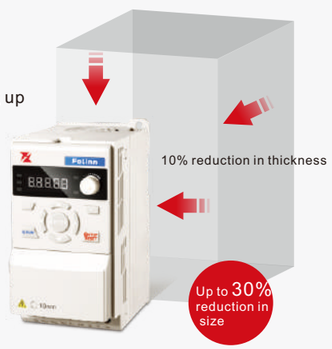
Compact size and easy installation.

Picture 1

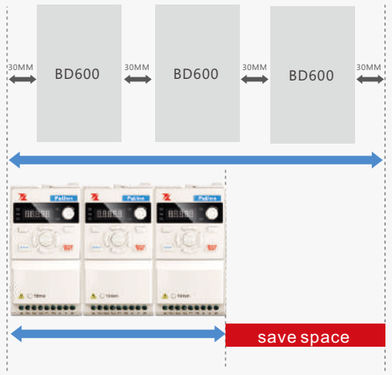
Compared with traditional inverters, the H1 series is smaller in size, saving up to 30% of the installation space and effectively improving the efficiency of space.

Picture 2

Support seamless installation side by side, provide high configuration flexibility and improve installation efficiency.



Picture 1



Picture 2

Customization:

According to industry customization, remove redundant functions, cost is more reasonable, and quality is more stable.

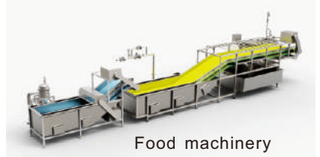
The function card is changeable

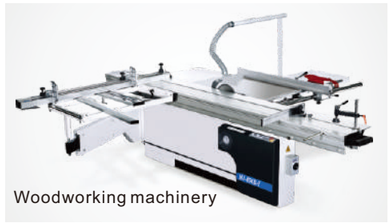
It can be customized according to the characteristics of the industry, removing redundant hardware and functions, reducing unnecessary costs, improving product competitiveness and flexibility

- Display panel can be customized
- The number of terminals and functions can be customized
- Parameter function can be customized.

Host unchanged

Stable quality, stronger reliability, faster reaction, stronger anti-interference ability



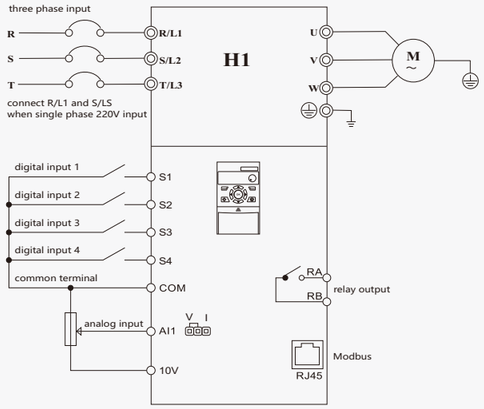


SOME APPLICATIONS

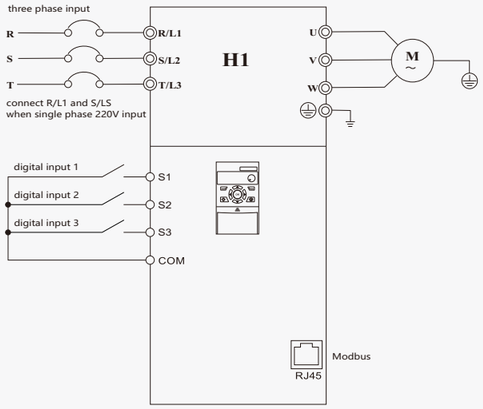
Folinn H1 series inverter is widely used in textile machine, packing machine, carving machine, printing machine, solar water pump, food machinery, woodworking machinery, water pump fan and ceramic machinery, providing better solutions

Textile machine | Packing machine | Carving machine | Printing machine | Solar water pump | Food machinery | Woodworking machinery | Water pump fan | Ceramic machinery | Others

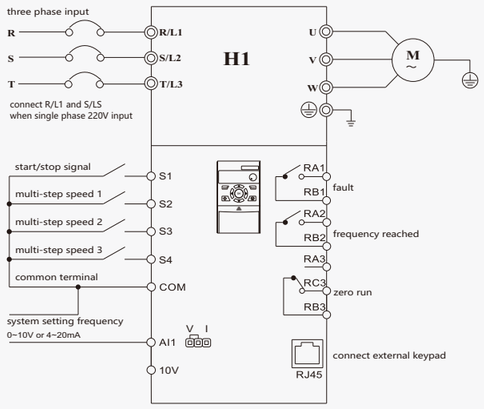
CONNECTION MODE



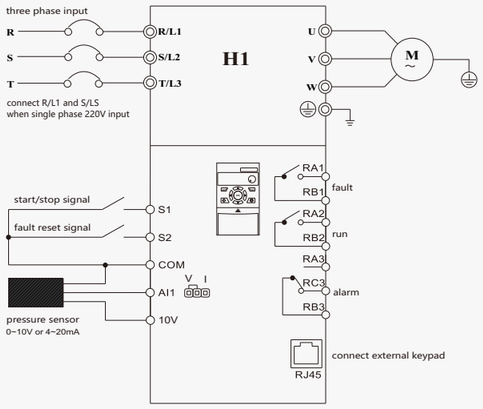
Standard wiring diagram



Basic wiring diagram



Wiring diagram for carving machine

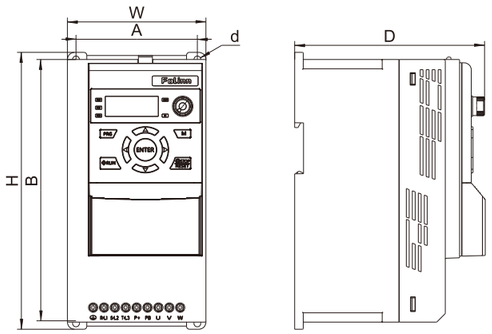


Wiring diagram for constant pressure water supply

NOMENCLATURE AND DIMENSIONS

H1 00 S2 0007 B T 0

- Product model (H1 Series)
- Customised product model
- S/T: 1PH/3PH 2/4:220/380V
- Power:kW
  - Top three: before decimal point
  - One decimal place: after decimal point
  - For example: 0007: 0.75kW
- B:Built-in brake unit X:Without brake unit
- T: Built-in STO circuit X:Without STO circuit
- 0:Mainland 1~9:Oversea



TECHNICAL PARAMETERS

Frame No.	Dimensions(mm)					
	W(Width)	H(Height)	D(Depth)	A	B	d
F1	85	170	124	67.3	158	5
F2	97	194	133	85	184	5
F3	126	237	147	112	223	5
F4	168	298	160	154	283	6
F5	198	355	177	183	338	6

Models and specifications

Frame No.	Models	Input voltage	Input current(A)	Power(KW)	Output current(A)	Adaptive motor(KW)
F1	H100S20007BX0	1PH 220V	8.2	0.75	5.0	0.75
	H100S20015BX0	1PH 220V	14.0	1.5	7.0	1.5
F2	H100T20022BX0	1PH 220V	23.0	2.2	12.5	2.2
		3PH 220V	13.5			
F3	H100T20037BX0	1PH 220V	38.6	3.7	15.2	3.7
		3PH 220V	16.5			
F1	H100T40007BX0	3PH 380V	4.0	0.75	3.0	0.75
	H100T40015BX0	3PH 380V	5.8	1.5	4.5	1.5
	H100T40022BX0	3PH 380V	6.5	2.2	5.6	2.2
F2	H100T40040BX0	3PH 380V	12.6	4.0	10.5	4.0
F3	H100T40055BX0	3PH 380V	16	5.5	14	5.5
	H100T40075BX0	3PH 380V	21	7.5	19	7.5
F4	H100T40110BX0	3PH 380V	28	11	26	11
	H100T40150BX0	3PH 380V	36	15	33	15
F5	H100T40185BX0	3PH 380V	42	18.5	40	18.5
	H100T40220BX0	3PH 380V	48	22	46	22