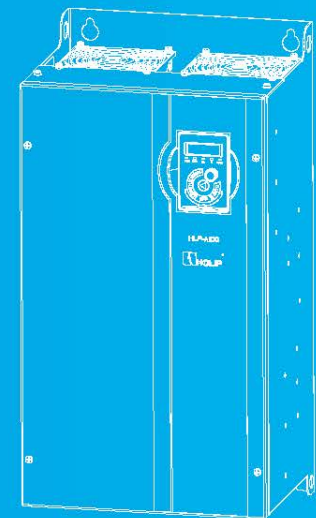


We will : Grow faster than the market,
Become the highest-quality well-known brand in China.

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HLP-A100 Series

General Vector Frequency Converter

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HLP-A100 Series



Product Brief

HLP-A100 Series Frequency Converter is a new generation of general vector frequency converters, with high reliability, high environmental adaptability, excellent user friendliness and excellent control performance features. It can be widely applied to many industries such as Plastics Machinery, Textiles, Machine Tools, Food Packaging, Chemicals, Printing, Building Materials, Stone, Wire Drawing Machine, Ceramics, Glass Machinery, Ball Mills, Environmental Equipment, Overloading Fan, Coal Machinery, Dust Removal Transformation, etc.

HLP-A100 Target Industry



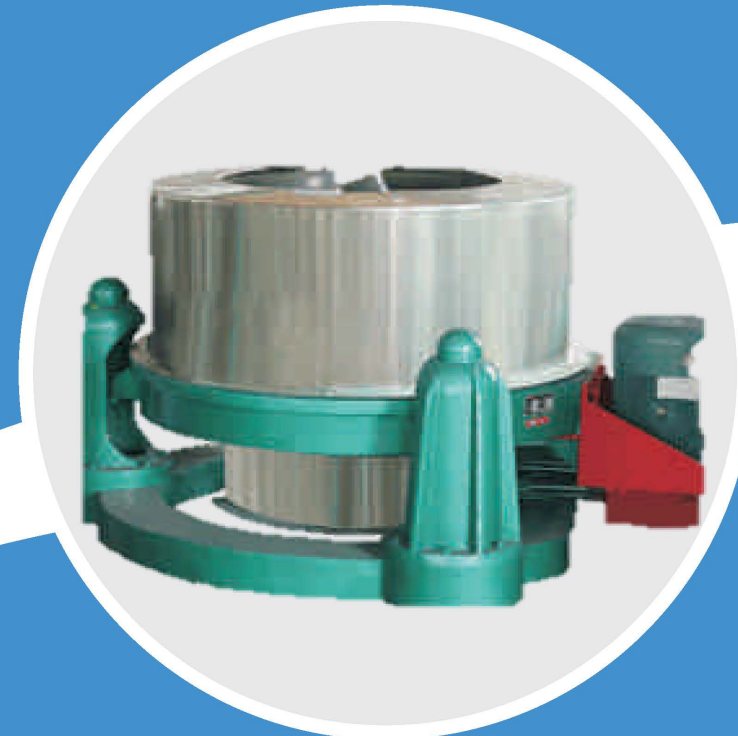
Stone Machinery



Printing Equipment



Overloading Fan - Roots Blower



Chemical Equipment -Centrifuges



Mining Equipment-Inclined Elevator



Feeder



Mechanical Processing
Equipment - Lathes



Grinding Machines



Textile Machinery



Ball Mill Machines



Ceramics



Glass Machinery



Plastics Machinery



Machining Equipment -
Centerless Grinder.

HLP-A100 Series General Vector Frequency Converter

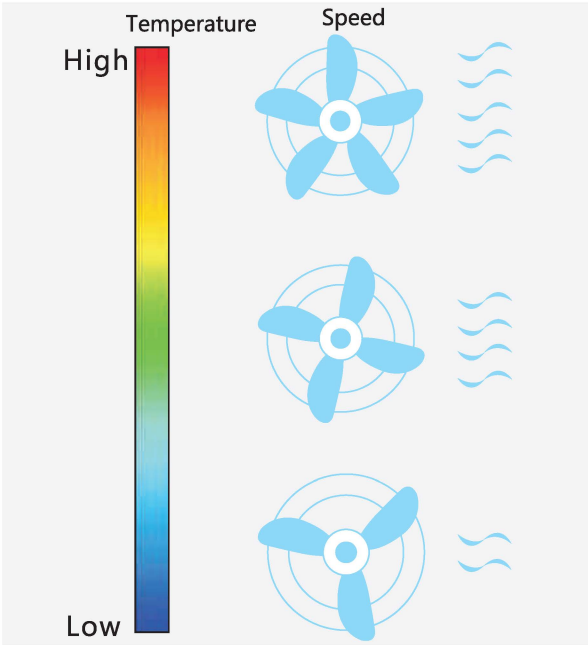
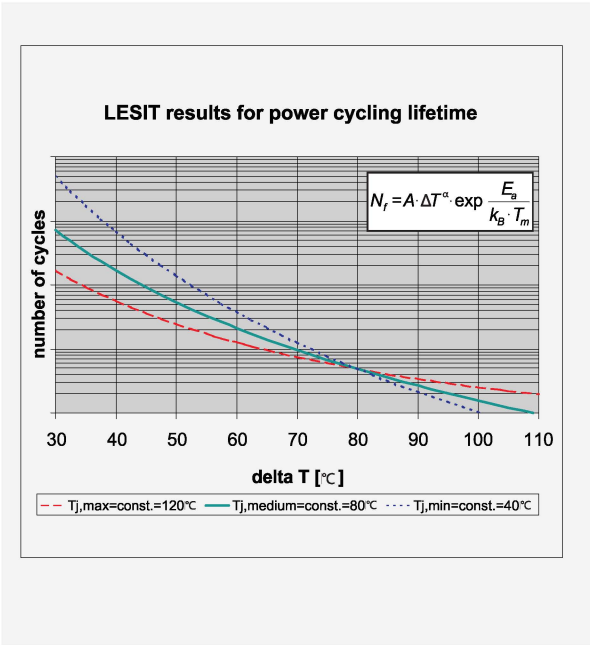
High Reliability

Longer Life Design

In order to ensure the long life of frequency converter, we take the precise life calculation and test of the major components such as modules, capacitors, fans, relays, etc., and also use the long service life of components.

Fan Speed Control

Fan speed is controlled by the temperature of frequency converter, which greatly extending the working life of the fans, and reducing the power dissipation and noise when frequency converter runs.



Strict Design and Test Production System

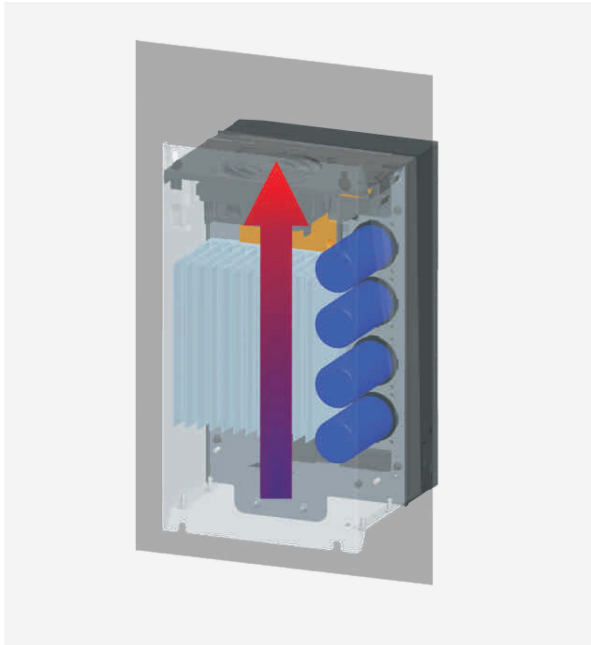
Strictly follow the Danfoss system, ensuring the best quality products from aspects of designing, testing, producing, suppliers selecting.



High Environmental Adaptability

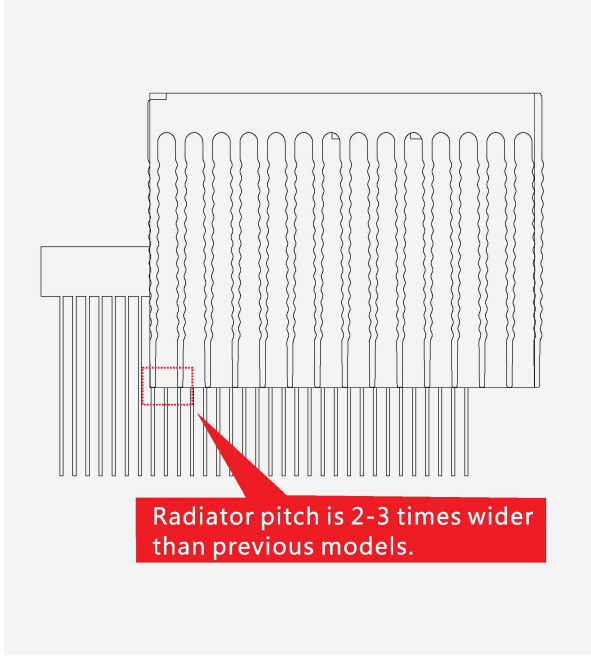
Independent Windway Design

All of independent windway design. Electron devices of $\leq 22kW$ models are completely sealed and unventilated, effectively avoiding contamination entering into the electron device areas, and promoting protection effect of the frequency converter with better adaption to complex and difficult live environments.



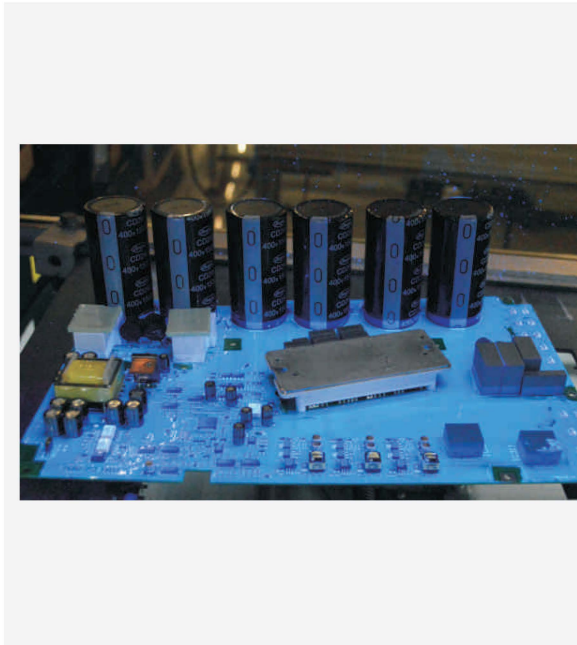
Radiator Design of Wide Tooth Pitch

Radiator Design of Wide Tooth Pitch can effectively prevent dust accumulation and blockage.



PCBA 100% Coating Coverage Rate

PCBA 100% overlay coatings to meet 3C3 environmental standards, can better resist chlorine, hydrogen, sulphide, ammonia and other chemical gases environments.



Fan Design of Easy Cleaning and Replacement

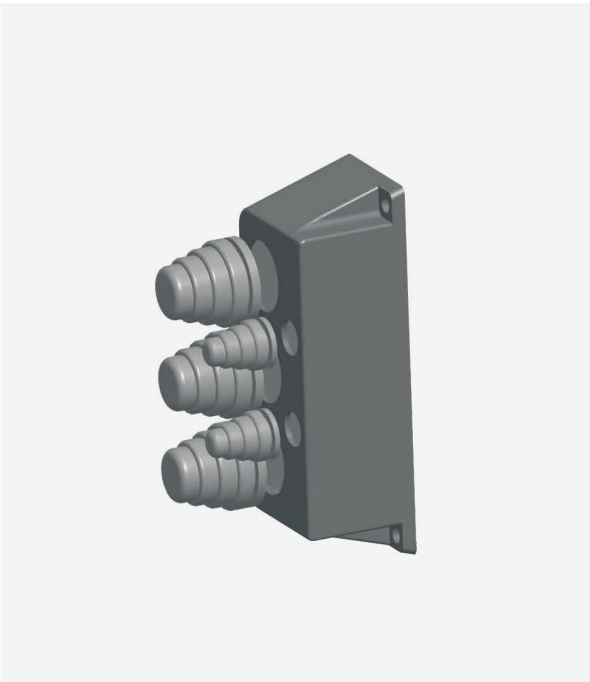
Fan Design of Easy Cleaning and Replacement can better clean the pollutants attached to the fan and heatsink.



HLP-A100 Series General Vector Frequency Converter

High Environmental Adaptability

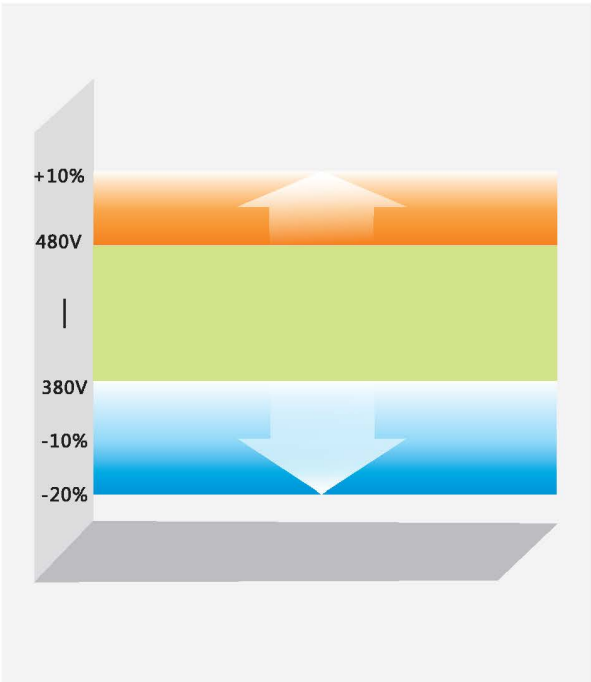
Provide "IP5X" Options
≤22kW models with high protection "IP5X" options can further improve the frequency converter's adaptive capacity to environment.



EMC Characteristics Adapted To Chinese Users
For common using characteristic of un-grounded, nonuse screened cables, we optimized the EMC.



Wide Voltage Range Design
Work within the input voltage 380-480V (-20% ~ +10%). Unique low-voltage mode is particularly suitable for power grid low voltage situations.



RFI Switch Design
≤22kW models adopting mechanical RFI switches, ≥ 30kW models adopting electronic control switch, users can select different on/off mode for leakage current and the EMC requirements.

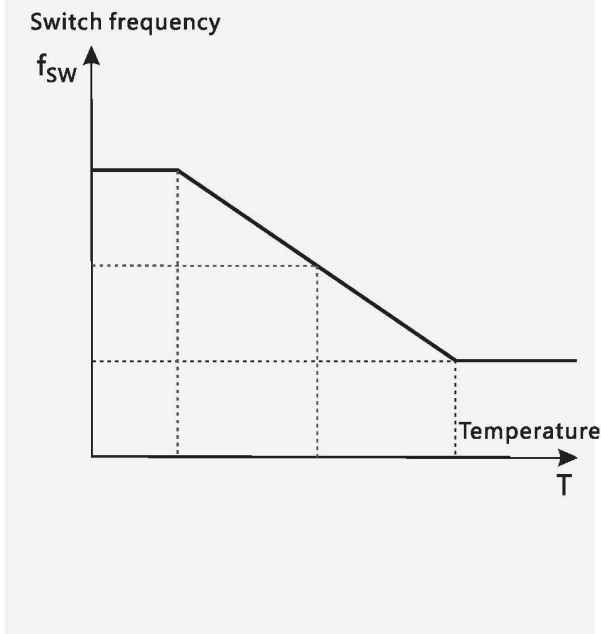


High Environmental Adaptability

≥37kW Models Built-in DC Reactor
Built-in DC reactor can effectively suppress harmonic current disturbance on the power grid, reduce customer grid capacity requirements, and improve the reliability of the rectifier bridge.
Current Distortion Rate



Intelligent Heating Management Design
When internal temperature of the frequency converter warms, it can intelligently adjust the PWM wave and switch frequency to control systems heat, meanwhile improve the fan speed to dissipate heat quickly.

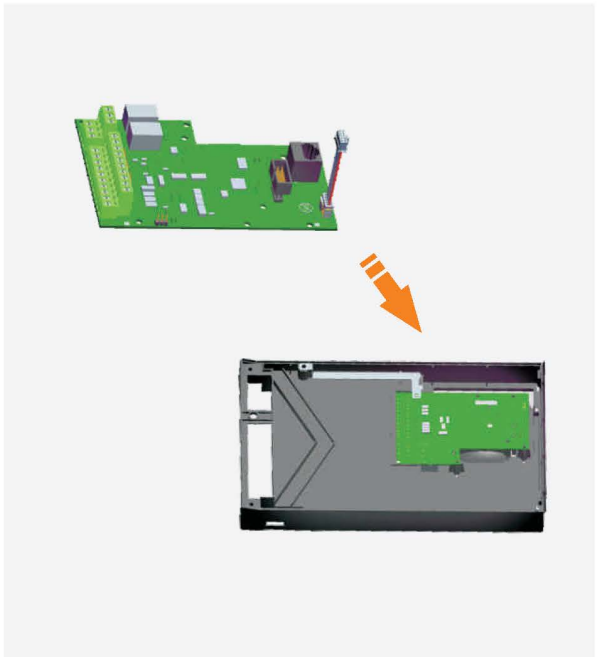


Excellent User Friendliness

Easy User Operation
Incremental potentiometer design and one-key restore user parameters.



Support IO Board Customization
IO board customization support user-defined dedicated function.

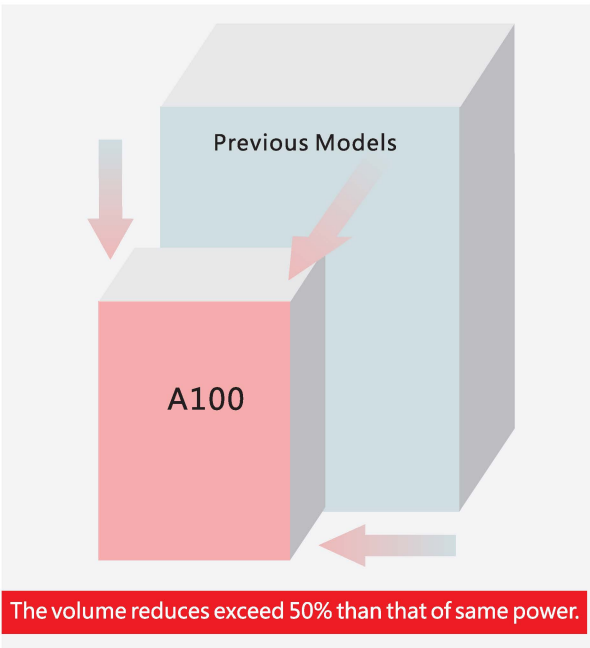


HLP-A100 Series General Vector Frequency Converter

Excellent User Friendliness

Small Size Products

Due to adopt advanced thermal simulation and modular design, the volume greatly reduce, saving installation space for customers.



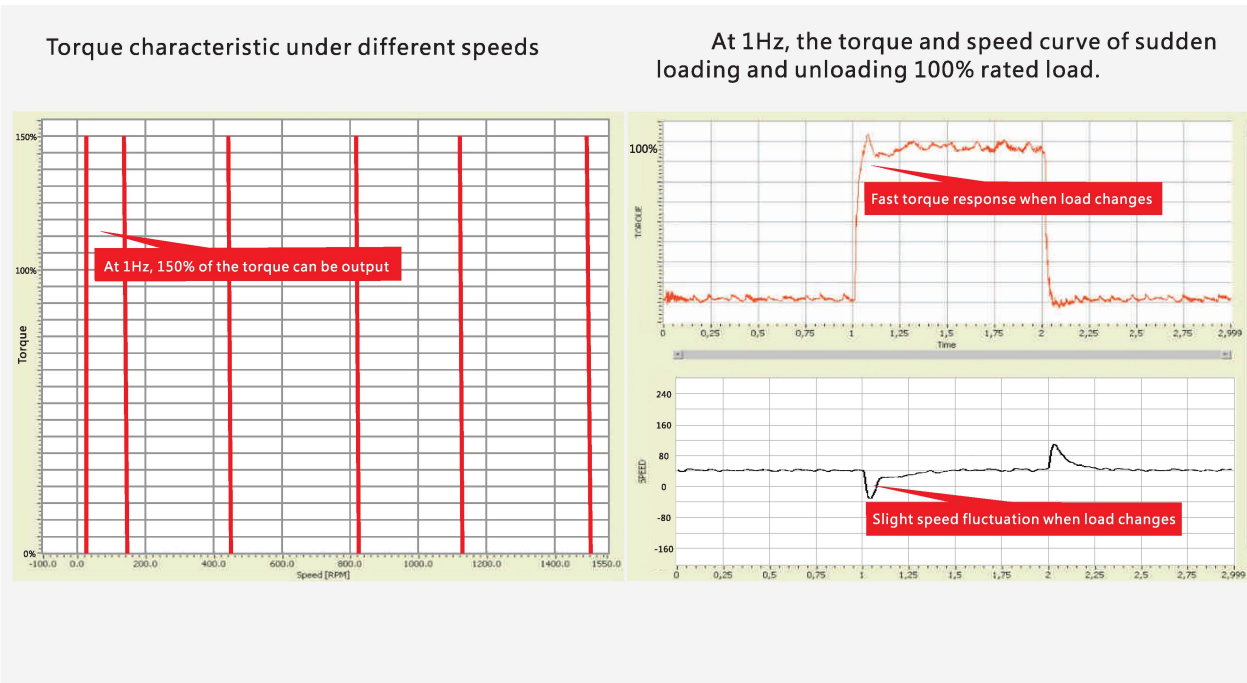
Multiple Installation Methods

0.4-22kW support Wall installation and Embedded installation;
30-75kW support Wall installation;
90-220kW support Wall installation and Cabinet installation;



Excellent Control Performance

Vector control ensures excellent control performance.



Technical Specifications

Item	Specifications	
Power supply	Supply voltage	single/three phase 200~240V -20%~+10%;
	Frequency	three phase 380~480V -20%~+10%;
	Max.imbalance	48~62Hz;
Motor output	Output voltage	3%;
	Output frequency	three phase 0-100% of supply voltage;
Main control functions	Control mode	V/F : 0-400Hz , VVC+: 0-200Hz; V/F, VVC+;
	Start torque	0.5Hz 150%;
	Overload capacity	150% rated output current (60s), 200% rated output current(1s);
	PWM switch frequency	2K~16KHz;
	Speed setting resolution	Digital: 0.001Hz; Analogy: 0.5‰ of the max. operating frequency ;
	Speed open-loop control accuracy	30~4000 rpm: tolerance±8 rpm;
	Control command source	LCP, digital terminal, local bus;
	Frequency setting source	LCP, analog, pulse, local bus;
Basic Functions	Ramp control	Selectable 4-speed steps ramp up and down times 0.05-3600.00s;
	Speed Open-loop Control; Process Closed-loop Control; Torque Open-loop Control; AMA Function; Motor Magnetisation; Slip Compensation; Torque compensation; Automatic Voltage Regulation; V/F Control, DCB rake; AC brake; Speed Limit; Current Limit; Flying Start; Reset Function; Counter;Timer;	
Application Functions	Wobble Function; Jogging; Multi-speed Controlvia Digital input; SLC (including Order Controland Parallel Control); Mechanical Braking; UP/DOWN; Catchup/ Slowdown; Relative Scaling Reference etc.	
Protection Functions	Missing Motor Phase Protection; Low-voltage Protection; Over-voltage Protection; Over-current Protection; Output Phase Loss Protection; Output Short Circuit Protection; Output Grounding Fault Protection; Motor Thermal Protection; Live Zero Timeout Function; AMA Fails;CPU Fault; EEPROM Faults; Button freeze; Duplicate Fails; LCP Invalid; LCP Incompatible; Parameter Read-only; Reference Out of Range; Invalid While Running etc.	
Basic IO board control terminals	Input	5 digital inputs; 1 analog input, it can receive voltage or current signals.
	Output	1 digital output; 1 relay output; 1 analog input; it can be selected as current output or voltage output via jumper switch.
	Power supply	1 +10V, max current output 10mA;
	Communication	RS+, RS-, max baud rate 115200bit/s;
Advanced IO board control terminals	Input	6 digital inputs (1 supports pulse input, pulse range: 1Hz~100kHz); 2 analog input, both can receive voltage or current signals.
	Output	2 digital output (1 supports pulse output, pulse range: 1Hz~100kHz); 2 relay output; 2 analog input (1 can be selected as current output or voltage output via jumper switch).
	Powersupply	1 +10V, max current output 10mA; 1 24V, max current output 200mA;
	Communication	RS+, RS-, max baud rate 115200bit/s;

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HLP-A100 Series General Vector Frequency Converter

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Item	Specifications	
Display	8 segments,5 numeric displays	Display frequency, warnings, statusand soon;
	Indicator	Light FWD、REV、HZ、A、 RPM display various status of the inverter;
	Data read-outs	Frequency setting, output frequency, feedback value, output current, DC link voltage, output voltage, output power, input terminals state, output terminals state, analogue input,analogue output, 1-10 fault records and accumulated working time etc.;
Environment	Enclosure	IP20;
	Ambient temperature	-10℃~50℃, derating use when over 40℃;
	Humidity	5%-85% (95% without condensation) ;
	Vibration test	≤75kW: 1.14g ; 90~220kW: 0.7g ;
	Max. altitude above sea level	1000m , derating use when more than 1000 meters;
others	Motor cable length	Shield cable: 50 meters,unshieldcable: 100 meters;
	DC choke	≥37kW standard configuration
	Braking unit	≤22kW standard configuration

Label Description

Product Name	HLP-A100	Website
Product Type Code	T/C: HLP-A10007D543P20XB1CX0AXVXXX	
Product Part Number	P/N: 133F0421	Product Serial Number
Power	S/N: 869807A521	
	7.5kW 10HP	
	IN: 3x380-480V 50/60Hz 24.8/21.4A	
	OUT: 3x0-Vin 0-400Hz 17.7/16A	
Protection Class	CHASSIS/IP20	
Product Order Number	O/N: www00064209	
Safety Precautions	 CAUTION: SEE MANUAL WARNING: STORED CHARGE DO NOT TOUCH UNTIL 4 MIN. AFTER DISCONNECTION  RISK OF ELECTRIC SHOCK-DUAL SUPPLY DISCONNECT MAINS AND LOADSHARING BEFORE SERVICE	

Significance of the product type code:

T/C:HLP-A100|07D5| 43 | P20 | X | B | X | 1 | C | X | 0 | A | XX | VXXX
1-8 9-12 13-14 15-17 18 19 20 21 22 23 24 25 26-27 28-31

NO.	code	Significance
1-8	HLP-A100	Indicate Product Series
9-12	07D5	Indicate 7.5KW
13-14	21	Indicate 1-Phase AC 220V
	23	Indicate 3-Phase AC 220V
	43	Indicate 3-Phase AC 380V
15-17	P20	IP rating is 20
18	X	Without AC choke
	A	With AC choke
19	X	Without Brake unit
	B	With Brake unit
20	X	Without DC choke
	D	With DC choke
21	1	Control panel with LED display and potentiometer
22	C	With coating on PCB
23	X	Reserved
24	0	Domestic sale
	1	Overseas sale
25	A	Basic IO board
	B	Advanced IO board
26-27	XX	Reserved
28-31	VXXX	Indicate software version number, such as V235 means the version number is 2.35 .

Note: For A100 power less than 7.5kW (including) model, basic IO board is standard configuration, advanced IO board is optional, please specify when ordering if need advanced IO board; For 11kW and above power model, advanced IO board is standard configuration.

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Particular Specifications

Model	Inputvoltage	Input current/A	Output current/A	Rated power/kW	Suitable motor/kW	Net weight /KG
HLP-A1000D3721	1×200-240V50/60Hz	6.1	2.5	0.37	0.37	1.3
HLP-A1000D7521	1×200-240V50/60Hz	11.6	5	0.75	0.75	1.3
HLP-A10001D521	1×200-240V50/60Hz	18.7	7.5	1.5	1.5	1.3
HLP-A10002D221	1×200-240V50/60Hz	26.4	11	2.2	2.2	1.3
HLP-A10003D721	1×200-240V50/60Hz	42	17	3.7	3.7	2
HLP-A1000D3723	3×200-240V50/60Hz	3.5	2.5	0.37	0.37	1.3
HLP-A1000D7523	3×200-240V50/60Hz	6.7	5	0.75	0.75	1.3
HLP-A10001D523	3×200-240V50/60Hz	10.9	7.5	1.5	1.5	1.3
HLP-A10002D223	3×200-240V50/60Hz	15.4	11	2.2	2.2	1.3
HLP-A10003D723	3×200-240V50/60Hz	24.3	17	3.7	3.7	2
HLP-A1000D7543	3×380-440V50/60Hz	3.5	2.3	0.75	0.75	1.3
	3×440-480V50/60Hz	3	2.1			
HLP-A10001D543	3×380-440V50/60Hz	5.9	4	1.5	1.5	1.3
	3×440-480V50/60Hz	5.1	3.6			
HLP-A10002D243	3×380-440V50/60Hz	8.5	5.6	2.2	2.2	1.3
	3×440-480V50/60Hz	7.3	5			
HLP-A10004D043	3×380-440V50/60Hz	14.4	9.9	4.0	4.0	2
	3×440-480V50/60Hz	12.4	8.9			
HLP-A10005D543	3×380-440V50/60Hz	19.2	13.3	5.5	5.5	2
	3×440-480V50/60Hz	16.6	12			
HLP-A10007D543	3×380-440V50/60Hz	24.8	17.7	7.5	7.5	2.5
	3×440-480V50/60Hz	21.4	16			
HLP-A100001143	3×380-440V50/60Hz	35.9	25	11	11	5.8
	3×440-480V50/60Hz	31.4	22.7			
HLP-A100001543	3×380-440V50/60Hz	43.4	32	15	15	5.8
	3×440-480V50/60Hz	38.8	29.1			
HLP-A10018D543	3×380-440V50/60Hz	51.5	38	18.5	18.5	8
	3×440-480V50/60Hz	46.1	34.5			
HLP-A100002243	3×380-440V50/60Hz	61.0	45	22	22	8
	3×440-480V50/60Hz	54.5	40.9			
HLP-A100003043	3×380-440V50/60Hz	73	61	30	30	19
	3×440-480V50/60Hz	64	52			
HLP-A100003743	3×380-440V50/60Hz	72	75	37	37	22
	3×440-480V50/60Hz	65	68			
HLP-A100004543	3×380-440V50/60Hz	86	91	45	45	26
	3×440-480V50/60Hz	80	82			

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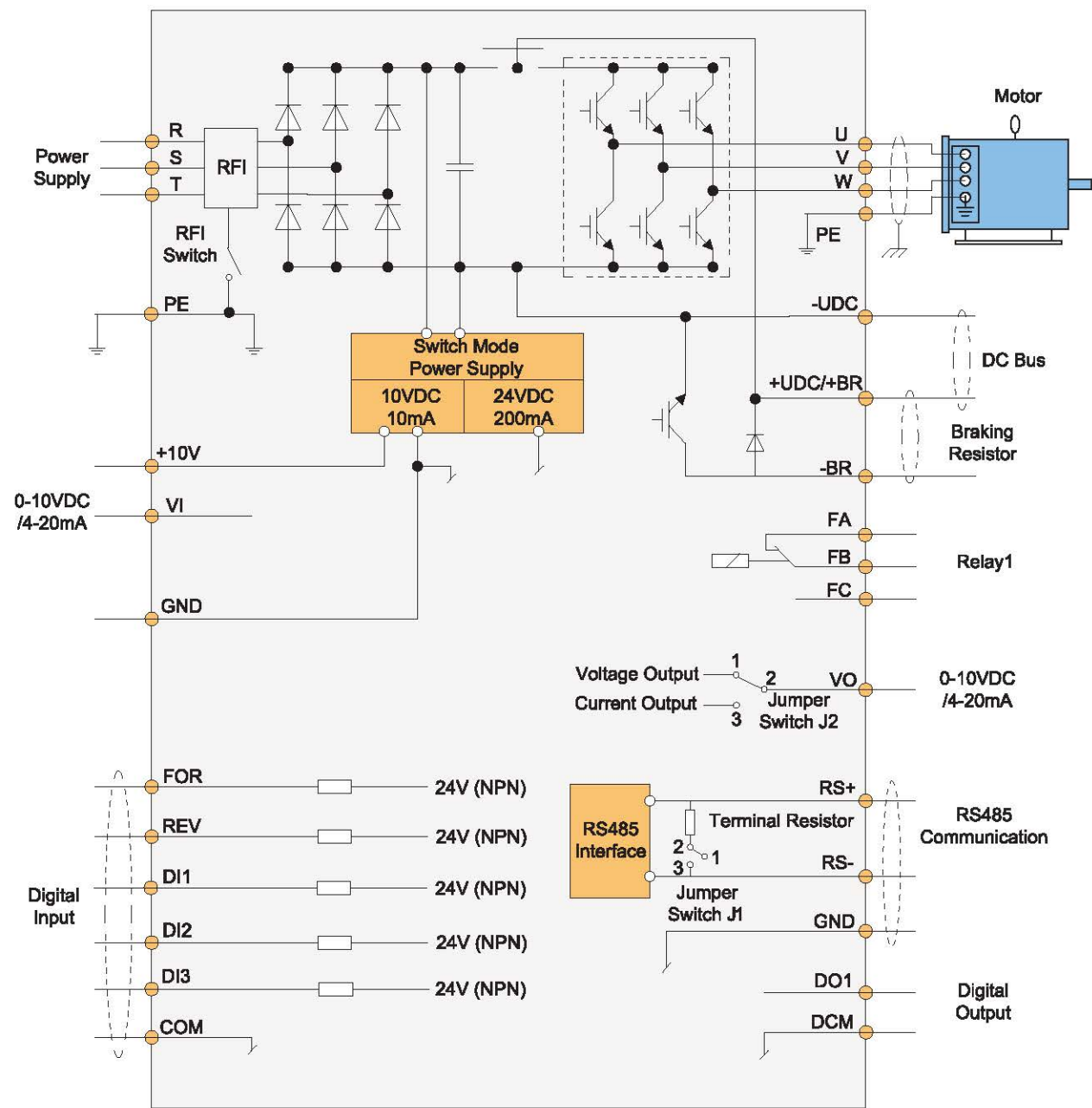
Particular Specifications

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Model	Inputvoltage	Input current/A	Output current/A	Rated power/kW	Suitable motor/kW	Net weight /KG
HLP-A100005543	3×380-440V50/60Hz	110	112	55	55	26
	3×440-480V50/60Hz	108	110			
HLP-A100007543	3×380-440V50/60Hz	148	150	75	75	37
	3×440-480V50/60Hz	135	140			
HLP-A100009043	3×380-440V50/60Hz	175	180	90	90	60
	3×440-480V50/60Hz	154	160			
HLP-A100011043	3×380-440V50/60Hz	206	215	110	110	60
	3×440-480V50/60Hz	183	190			
HLP-A100013243	3×380-440V50/60Hz	251	260	132	132	60
	3×440-480V50/60Hz	231	240			
HLP-A100016043	3×380-440V50/60Hz	304	315	160	160	99
	3×440-480V50/60Hz	291	302			
HLP-A100018543	3×380-440V50/60Hz	350	365	185	185	99
	3×440-480V50/60Hz	320	335			
HLP-A100020043	3×380-440V50/60Hz	381	395	200	200	99
	3×440-480V50/60Hz	348	361			
HLP-A100022043	3×380-440V50/60Hz	420	435	220	220	99
	3×440-480V50/60Hz	383	398			

HLP-A100 Series General Vector Frequency Converter

Basic IO board wiring:

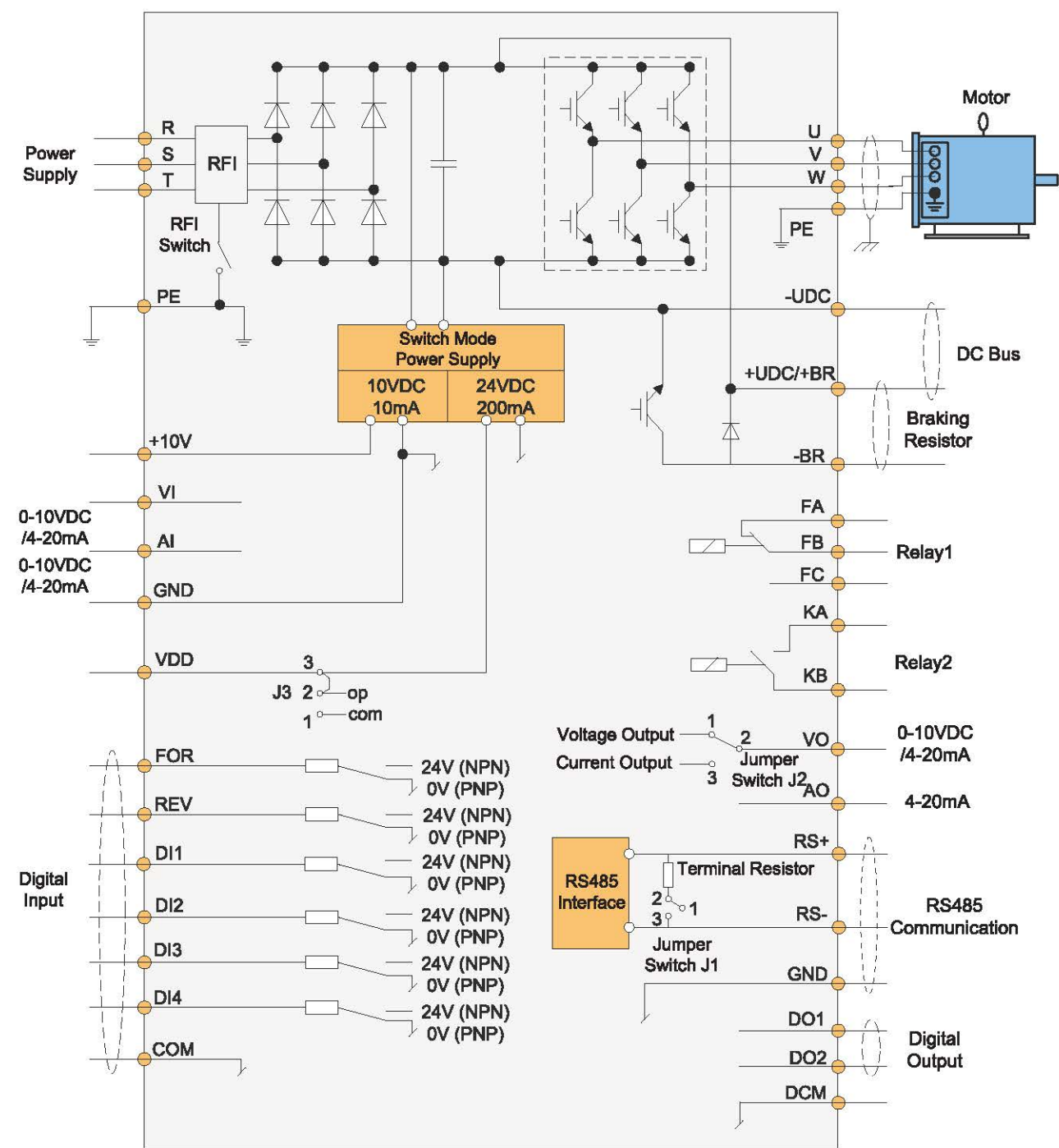


Terminals' specification:

Symbol	Description	Specification
+10V	10V Power Supply	Max load 10 mA, with over load and short circuit protection functions.
FOR, REV, DI1, DI2, DI3	Digital Input	1. Logic: >DC19V Logic: 0; <DC14V Logic: 1; 2. Voltage: DC 0-24V; 3. Input resistance: 5kΩ; 4. Input voltage rang: Max ±30V;
VI	Analog Input	VI can be configurated to 0-20mA or 0-10V by parameters: 1. Input impedance: about 10kΩ; 2. Input impedance: ≤500Ω;
VO	Analog Output	Vo can be selected to the current output or voltage output via J2 in the control board, default is: voltage output. 1. Output mode: 0~20mA or 0~10V; 2. Voltage output: load larger than 500Ω; 3. Current output: load larger than 200Ω;
GND	Analog and communication ground	Isolated from internal COM.
DO1	Digital output	1. Open collector output; 2. Output current range: 0-50mA; 3. Max voltage 30V;
COM	Digital ground	Isolated from internal GND.
DCM	Digital output common terminal	Connect COM as Digital output reference ground.
FA-FB-FC	Relay output	1. Resistive Load: 250VAC 3A/30VDC 3A ; 2. Inductive Load: 250VAC 0.2A/24VDC 0.1A (cosφ=0.4);
RS+, RS-	RS485 communication	Max baud rate: 115200bit/s ;
J1	RS485 termination resistor jumper switch	Jumper switch 1-2 connected: OFF, termination resistor not connected, default state; Jumper switch 2-3 connected: ON, termination resistor connected;
J2	VO jumper switch	Jumper switch 1-2 connected: 0~10V , default state; Jumper switch 2-3 connected: 0~20mA;

HLP-A100 Series General Vector Frequency Converter

Advanced IO board wiring:

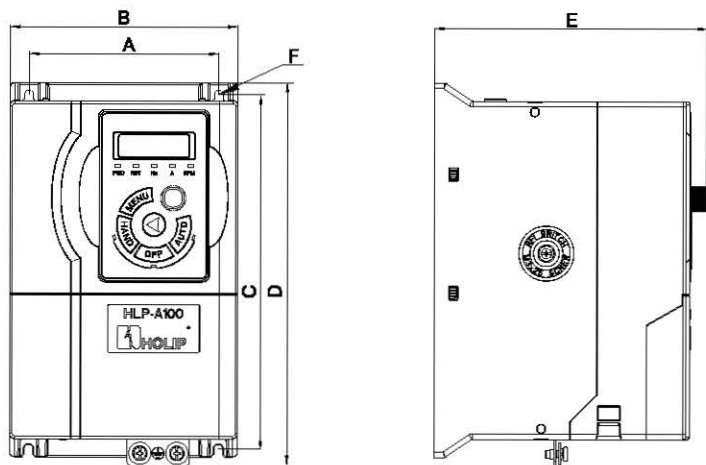


Terminals' specification:

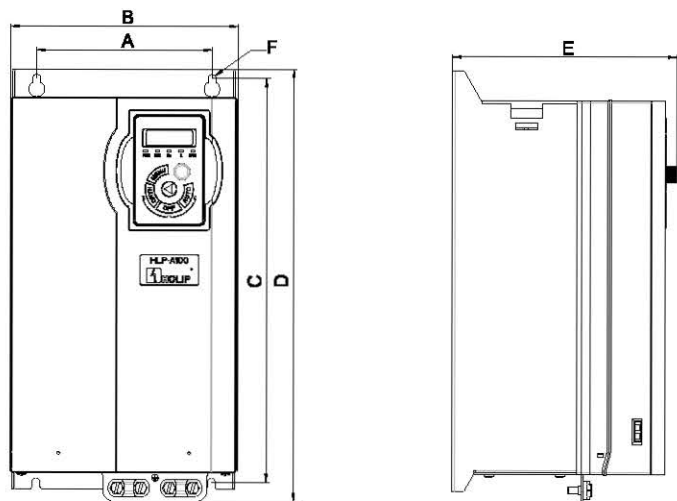
Symbol	Description	Specification
VDD	24V Power Supply	Max load 200 mA, with over load and short circuit protection functions.
+10V	10V Power Supply	Max load 10 mA, with over load and short circuit protection functions.
FOR, REV, DI1, DI2, DI3, DI4	Digital Input	1.Logic: PNP <DC5V Logic: 0; NPN >DC19V Logic: 0; >DC10V Logic: 1; <DC14V Logic: 1; 2.Voltage: DC0-24V; 3.Input resistance: 5kΩ; 4.Input voltage Rang: Max±30V; 5.Digital input can be selected to NPN or PNP mode by Jump switch J3, the default is: NPN mode;
DI4	Pulse input	1.Pulse input: 0.001-100.000kHz; 2.Voltage range: 24V±20%; 3.Input duty ratio: 40%-60%;
DO1, DO2	Digital output	1.DO1:Open collector output; DO2:Push-pull output; 2.Output current range: DO1: 0-30mA; DO1: 0-50mA; 3.Max voltage 30V;
DO1	Pulse Output	Do1 can also be configured as pulse output channels: 1.Pulse output range: 0.001-100.000kHz; 2.Voltage range:0-24V; 3.Duty ratio:40%-60%; 4.Resistive load>1kΩ,Capacitive Load<10nf;
COM	Digital ground	Isolated from internal GND.
DCM	Digital output common terminal	Connect COM as Digital output reference ground.
VI, AI	Analog Input	Both VI and AI can be configured to 0-20mA or 0-10V by parameters: 1.Input Impedance:about 10kΩ; 2.Input Impedance:≤500Ω;
VO, AO	Analog Output	VO can be selected to the current output or voltage output via J2, default is: voltage output;AO only has current output mode; 1.Output Mode: 0~20mA or 0~10V; 2.Voltage Output: load larger than 500Ω; 3.Current Output: load larger than 200Ω;
GND	Analog and communication ground	Isolated from internal COM.
FA-FB-FC, KA-KB	Relay output	1.Resistive Load:250VAC3A/30VDC3A ; 2.Inductive Load:250VAC0.2A/24VDC0.1A(cosφ=0.4);
RS+, RS-	RS485 communication	Max baud rate:115200bit/s ;
J1	RS485 termination resistor jumper switch	Jumper switch 1-2 connected: OFF, termination resistor not connected,default state; Jumper switch 2-3 connected: ON, termination resistor connected;
J2	VO jumper switch	Jumper switch 1-2 connected: 0~10V, default state; Jumper switch 2-3 connected: 0~20mA;
J3	Digital input jumper switch	Jumper switch 1-2 connected: PNP mode; Jumper switch 2-3 connected: NPN mode,default state;

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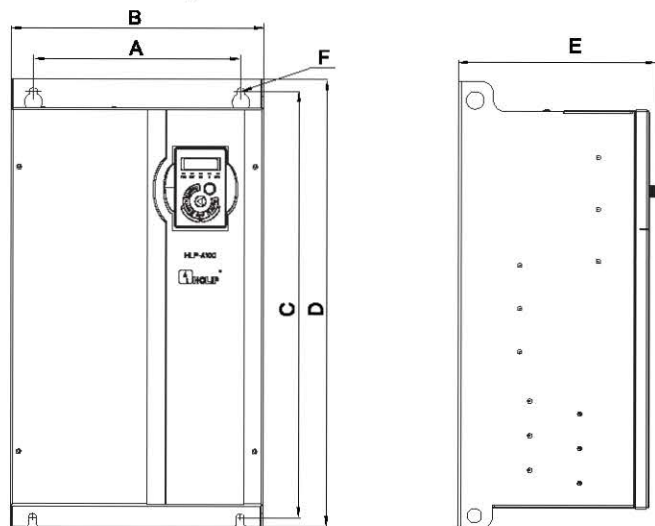
External and installation dimensions



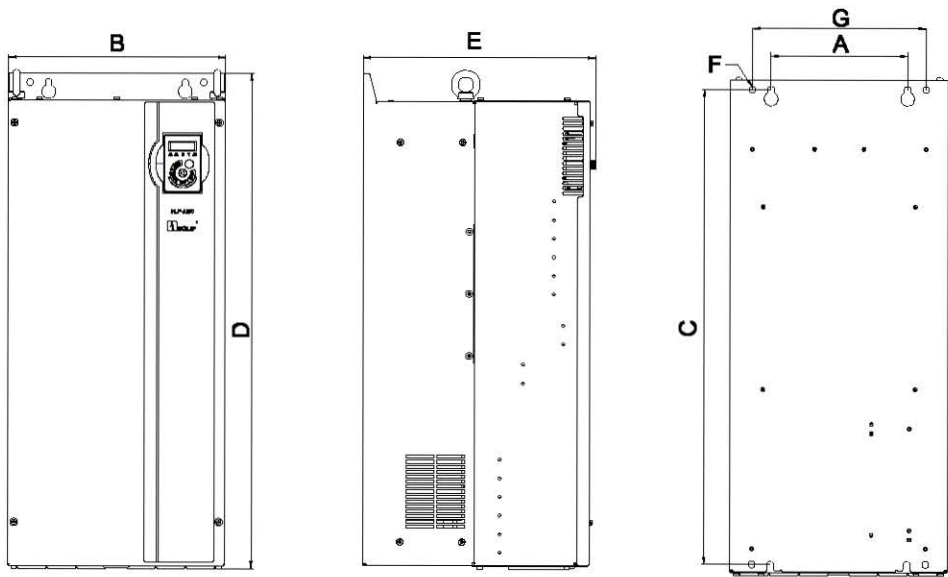
Single\Three phase 220V 0.37~3.7kW and Three phase 380V 0.75~7.5kW



Three phase 380V 11~22kW 11~22kW



Three phase 380V 30~75kW



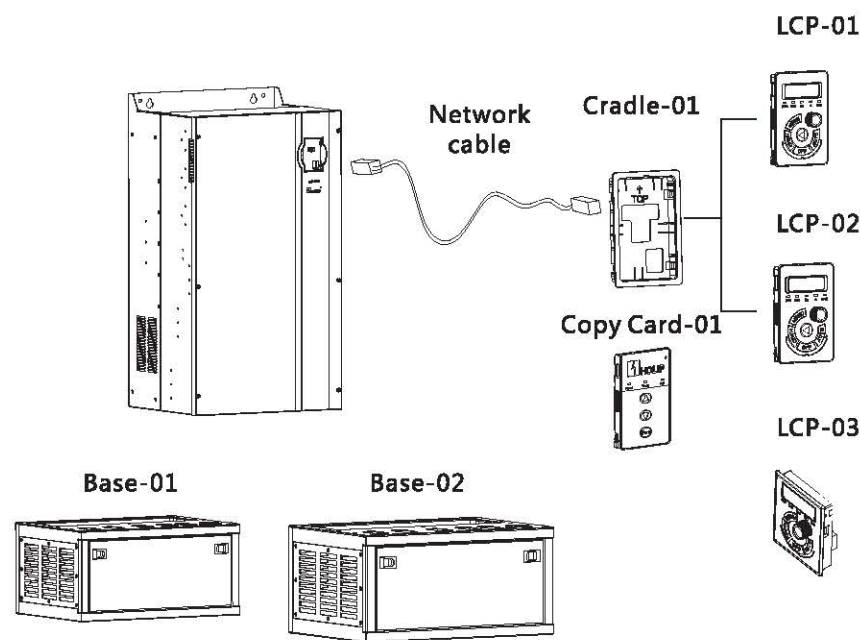
three phase 380V 90~220kW

External and installation dimensions (unit: mm)

Voltage and Power			Dimensions						
1×200-240V	3×200-240V	3×380-480V	A	B	C	D	E	F	G
0.37-1.5kW	0.37-1.5kW	0.75-2.2kW	104	125	194	210	150	4.5	-
2.2-3.7kW	2.2-3.7kW	4.0-5.5kW	124	145	230	250	165	4.5	-
		7.5kW	133	155	243	263	175	4.5	-
		11-15kW	148	192	340	365	189	6.5	-
		18.5-22kW	150	214	395	420	194	6.5	-
		30-37kW	240	292	492	517	229	9	-
		45-55kW	240	292	537	562	249	9	-
		75kW	240	292	640	665	277	9	-
		90-132kW	220	350	765	799	375	10.5	280
		160-220kW	345	486	863	900	390	10.5	410

HLP-A100 Series General Vector Frequency Converter

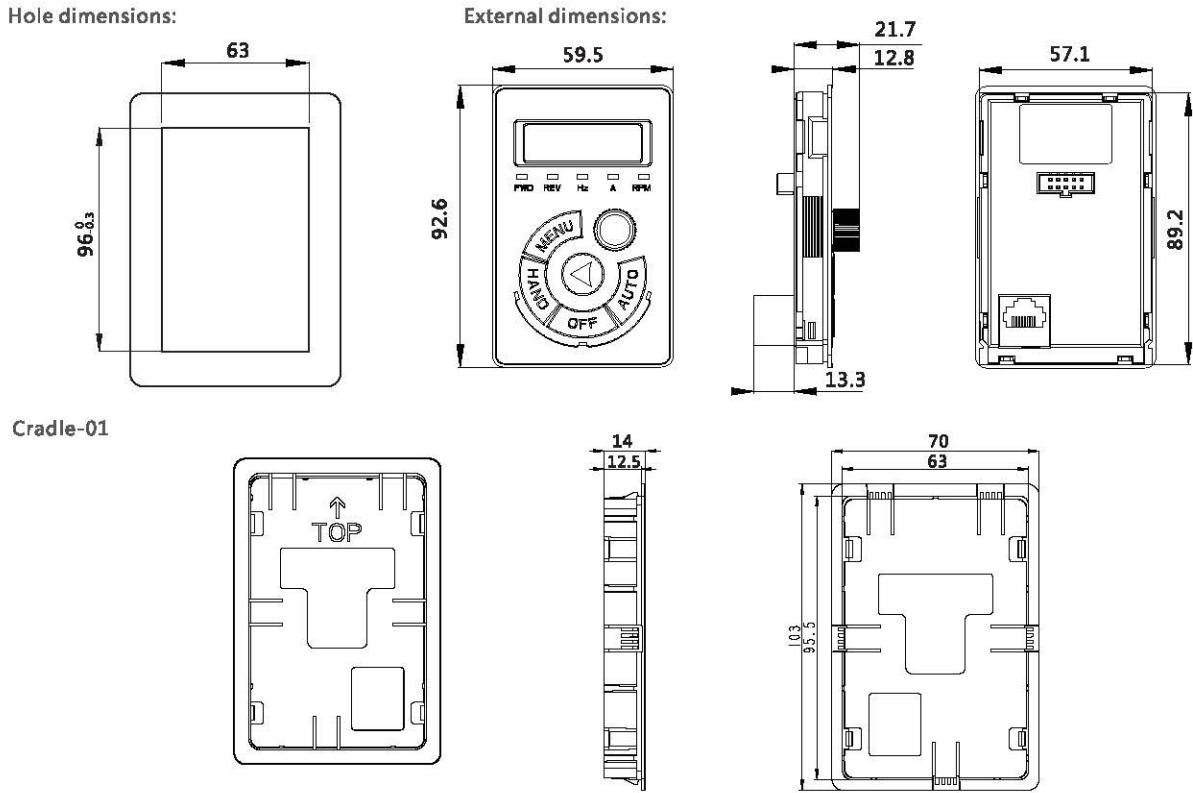
Accessories



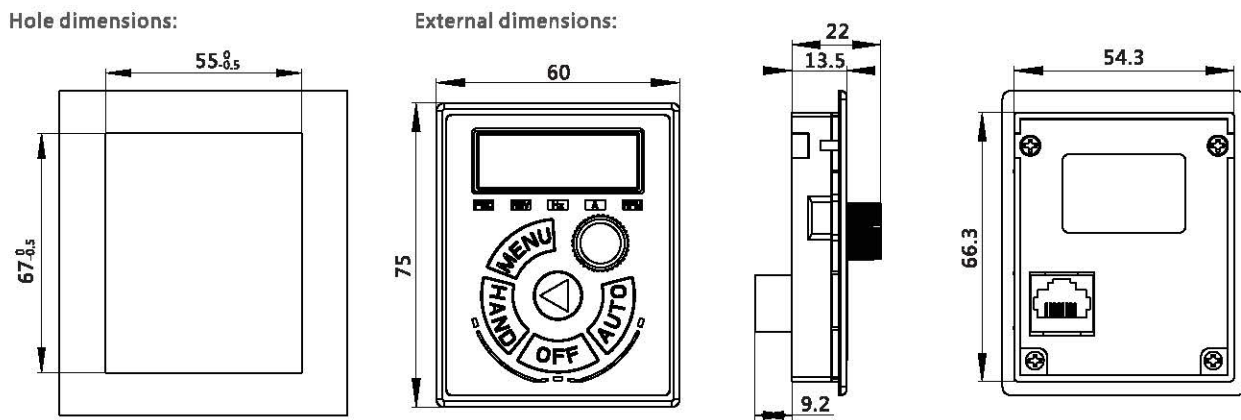
Model	Specification	Remark
LCP-01	The standard length of extension cable is 3 meters when mounting LCP on control cabinet.	standard configuration
LCP-02	LCP-02 has the same external and installation dimensions and installation method with LCP-01. The standard length of extension cable is 15 meters when mounting LCP on control cabinet.	Optional, please specify when ordering
LCP-03	LCP-03 has the same installation dimensions with HLP-A control panel (OP-AB01).	Optional, please specify when ordering
Cradle-01	For LCP-01 and LCP-02 installation.	Optional, please specify when ordering
CopyCard-01	Copy Card can copy parameters from one drive to another.	Optional, please specify when ordering
Network Cable	Connect LCP to the drive when mounting LCP on control cabinet.	Do not offer, self procurement
Base-01	For 90~132kW	Optional, please specify when ordering
Base-02	For 160~220kW	Optional, please specify when ordering

LCP

The external dimensions of LCP-01 and LCP-02 and their hole are shown below (unit: mm):

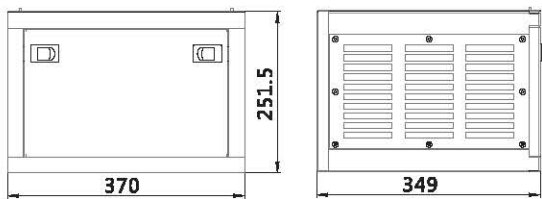


The external dimensions of LCP-03 and its hole are shown below (unit: mm):



Base

Base-01 dimensions (unit: mm):



Base-02 dimensions (unit: mm):

