

## Honeywell: High Performance Variable Frequency Drives

Introducing High Performance Variable Frequency Drives with advanced features - such as Vector control of induction motors, sensor less control for Synchronous motors and user-friendly programming. These general-purpose drives provide step-less speed control for all basic HVAC applications like Fans, Pumps and Compressors and provide customers a smart way to do energy efficient HVAC Control.



# Product Information

## Technical Specifications

Table 1 - Technical Specifications

Item		Specification
Input	Inuput Voltage	1phase/3phase 220V: 200V~240V 3 phase 380V-480V: 380V~480V
	Allowed Voltage fluctuation range	-15%~10%
	Input frequency	50Hz / 60Hz, fluctuation less than 5%
Output	Output Voltage	3phase: 0~input voltage
	Overload capacity	General purpose application: 60S for 150% of the rated current Light load application: 60S for 120% of the rated current
Control	Control mode	V/f control Sensorless flux vector controlwithout PG card (SVC) Sensor speed flux vector control with PG card (VC)
	Operating mode	Speed control、 Torque control (SVC and VC)
	Speed range	1:100 (V/f) 1:200( SVC) 1:1000 (VC)
	Speed control accuracy	±0.5% (V/f) ±0.2% (SVC) ±0.02% (VC)
	Speed response	5Hz(V/f) 20Hz(SVC) 50Hz(VC)
	frequency range	0.00~600.00Hz(V/f) 0.00~200.00Hz(SVC) 0.00~400.00Hz(VC)
	Input frequency resolution	Digital setting: 0.01 Hz Analog setting: maximum frequency x 0.1%
	Startup torque	150%/0.5Hz(V/f) 180%/0.25Hz(SVC) 200%/0Hz(VC)
	Torque control accuracy	SVC: within 5Hz10%, above 5Hz5% VC:3.0%
	V/f curve	V / f curve type: straight line, multipoint, power function, V / f separation; Torque boost support: Automatic torque boost (factory setting), manual torque boost
	Frequency giving ramp	Support linear and S curve acceleration and deceleration; 4 groups of acceleration and deceleration time, setting range 0.00s ~ 60000s

Item		Specifiation
	DC bus voltage control	VdcMax Control: Limit the amount of power generated by the motor by adjusting the output frequency to avoid over-voltage trip; VdcMin control: Control the power consumption of the motor by adjusting the output frequency, to avoid jump undervoltage fault
	Carrier frequency	1kHz~12kHz (Varies depending on the type)
	Startup method	Direct start (can be superimposed DC brake); speed tracking start
	Stop method	Deceleration stop (can be superimposed DC braking); free to stop
	Maincontrol function	Jog control, droop control, up to 16-speed operation, dangerous speed avoidance, swing frequency operation, acceleration and deceleration time switching, VF separation, over excitation braking, process PID control, sleep and wake-up function, built-in simple PLC logic, virtual Input and output terminals, built-in delay unit, built-in comparison unit and logic unit, parameter backup and recovery, perfect fault record,fault reset, two groups of motor parameters free switching, software swap output wiring, terminals UP / DOWN
Function	Keypad	LED Digital keyboard and LCD keypad(option)
	communication	Standard: MODBUS communication Option: Profibus-DP and CAN OPEN
	PG card	Incremental Encoder Interface Card (Differential Output and Open Collector), Rotary transformer Card
	Input terminal	Standard: 5 digital input terminals, one of which supports high-speed pulse input up to 50kHz; 2 analog input terminals, support 0 ~ 10V voltage input or 0 ~ 20mA current input; Option card: 4 digital input terminals 2 analog input terminals support -10V ~+10V voltage input
	Output terminal	Standard: 1 digital output terminal; 1 high-speed pulse output terminal (open collector type), support 0 ~ 50kHz square wave signal output; 1 relay output terminal (second relay is an option) 2 analog output terminals, support 0 ~ 20mA current output or 0 ~ 10V voltage output; Option card: 4 digital output terminals
Environment	Installation location	Indoor, no direct sunlight, dust, corrosive gas, combustible gas, oil smoke, vapor, drip or salt.
	Altitude	Lower than 1000m
	Ambient temperature	-10°C~ +40°C, maximum 50°C (derated if the ambient temperature is between 40°C and 50°C) Rated output current decrease by 1.5% if temperature increase by 1°C
	Humidity	Less than 95%RH, without condensing
	Vibration	Less than 5.9 m/s <sup>2</sup> (0.6 g)
	Storage temperature	-20°C ~ +60°C
Others	Installation	Wall-mounted, floor-controlled cabinet, transmural
	Protection level	IP20
	Cooling method	Forced air cooling
	EMC Filter	Built-in (Category – C3)
	AC Choke	Optional

**Table 2 – VFD Control Circuit Terminal**

Type	Terminal Symbol	Terminal Name	Terminal function description
Analog input voltage	+10V	Input voltage	10.10V±1%
			Maximum output current:10mA, it provides power supply to external potentiometer with resistance range of 1KΩ~51KΩ
	GND	Analog ground	Internal isolation from COM
	AI1	Analog input1	Input voltage:0~10V: Impedance 22KΩ, Maximum input voltage
			Input current:0~20mA: Impedance 500Ω, Maximum input current
			Through the jumper switch AI1 0 ~ 10V and 0 ~ 20mA analog input switch, the factory default voltage input.
	AI2	Analog input 2	Input voltage:0~10V: Impedance 22KΩ, Maximum input voltage
			Input current:0~20mA: Impedance 500Ω, Maximum input current
			Through the jumper switch AI1 0 ~ 10V and 0 ~ 20mA analog input switch, the factory default voltage input.
Analog output	AO1	Analog output 1	Output voltage:0~10V: Impedance ≥10KΩ
			Output current:0~20mA: Impedance 200Ω~500Ω
			Through the jumper switch AO1 0 ~ 10V and 0 ~ 20mA analog output switching, the factory default voltage output.
	AO2	Analog output 2	Output voltage:0~10V: Impedance ≥10KΩ
			Output current:0~20mA: Impedance 200Ω~500Ω
			Through the jumper switch AO1 0 ~ 10V and 0 ~ 20mA analog output switching, the factory default voltage output.
	GND	Analog ground	Internal isolation from COM
Switch input	+24V	+24V current	24V±10%, Internal isolation from GND
			Maximum output current: 200mA
			To provide 24V power supply, generally used as a digital input and output terminal power supply and external sensor power
	PLC	Digital input terminal common	The factory default setting is connected PLC with +24V
			Terminal for on-off input high and low level switch
	COM	+24V ground	When using the external signal to drive DI1~DI5, it will disconnect the connector slip of PLC with the +24V
			Internal isolation from GND
			Optocoupler isolation, compatible with bipolar input
	DI1~DI4	Digital input terminal 1~4	Frequency range: 0~200Hz
			Voltage range: 10V~30V
Switch output	DO1	Open collector output	Digital input terminal: same as DI1~DI4
			Pulse input frequency input: 0~50KHz
			Voltage range: 10V~30V
	HDO	Open collector output /High-speed pulse output	Optocoupler isolation
			Voltage range: 0V~24V
			Current range: 0mA ~50mA
			Open collector output: same as DO1
			High-speed pulse output: 0~50KHz
Relay output 1	TA/TB/TC	Relay output	T1A-T1B: normal open
			T1A-T1C: normal close
			Contact rating: AC 250V, 3A; DC 30V, 1A

Type	Terminal Symbol	Terminal Name	Terminal function description
Relay output2 (optional)	T2A/T2BT2C	Relay output	T2A-T2B: nomal open
			T2A-T2C: nomal close
			Contact rating: AC 250V, 3A; DC 30V, 1A
485 port	485+	485 Positive differential signal	Baud rate: 1200/2400/4800/9600/19200/38400/57600/115200bps
	485-	485 Negative differential signal	

Technical Specifications

Table 3 - VFD models and technical data

Model Nos. (Order Code)	Power capacity (KVA)	Input current (A)	Output current(A)		Adaptable Motor (KW)	SIZE	Brake Unit
			Heavy load	Light load			
Three phase: 380-480V, 50/60Hz							
HONVFD0P75K	1.5	3.4	2.5	4.2	0.75	SIZE A	Internal
HONVFD01P5K	3	5	4.2	5.6	1.5		
HONVFD02P2K	4	5.8	5.6	9.4	2.2		
HONVFD004PK	5.9	10.5	9.4	13.0	3.7		
HONVFD05P5K	8.9	14.6	13.0	17.0	5.5	SIZE B	
HONVFD07P5K	11	20.5	17.0	23.0	7.5		
HONVFD011PK	17	26.0	25.0	31.0	11	SIZE C	Internal
HONVFD015PK	21	35.0	32.0	37.0	15		
HONVFD18P5K	24	38.5	37.0	45.0	18.5	SIZE D	

# Technical Specifications

## Product appearance

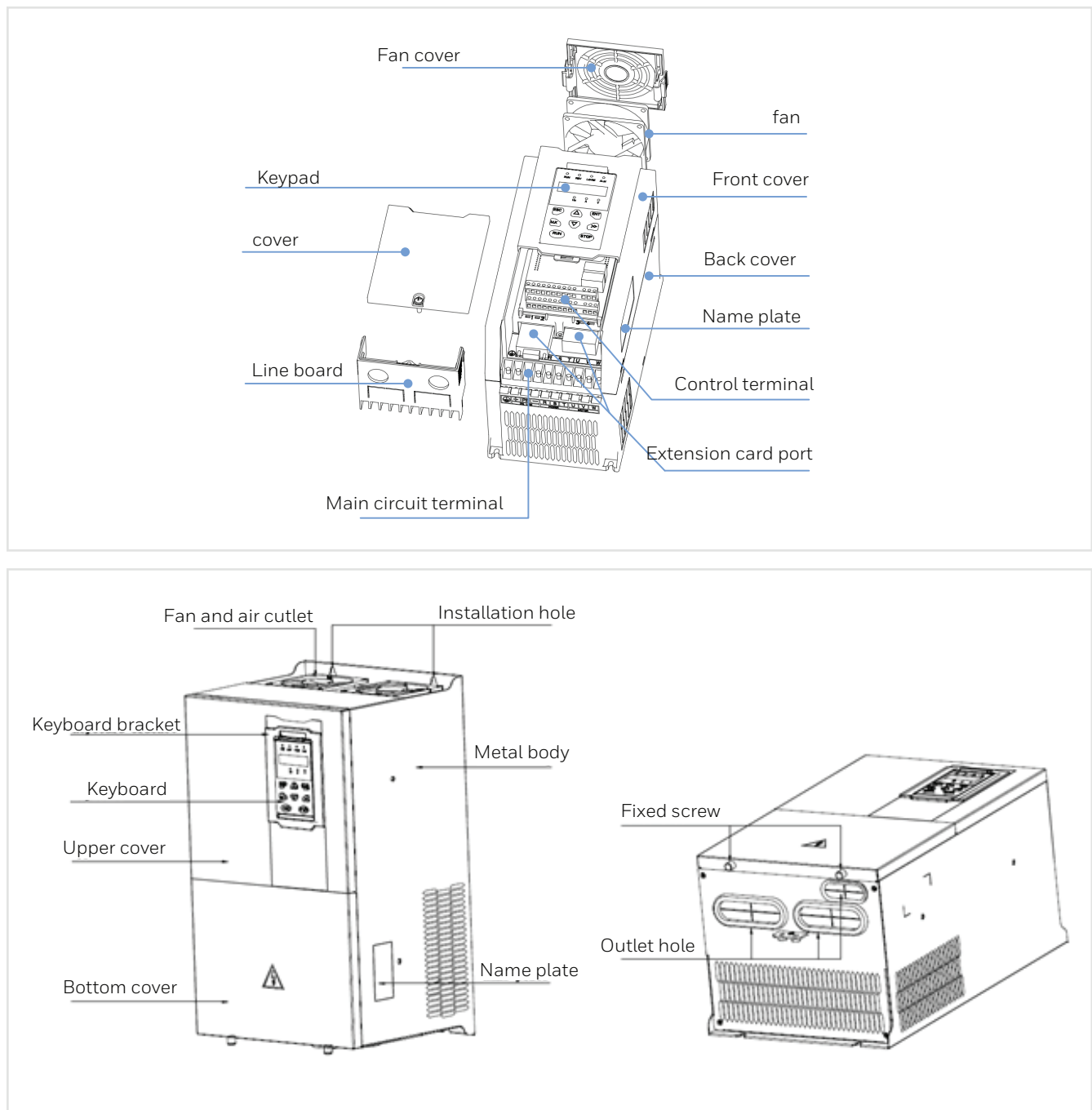


Fig. 1 - VFD series appearance

Appearance and Mounting Hole Dimension

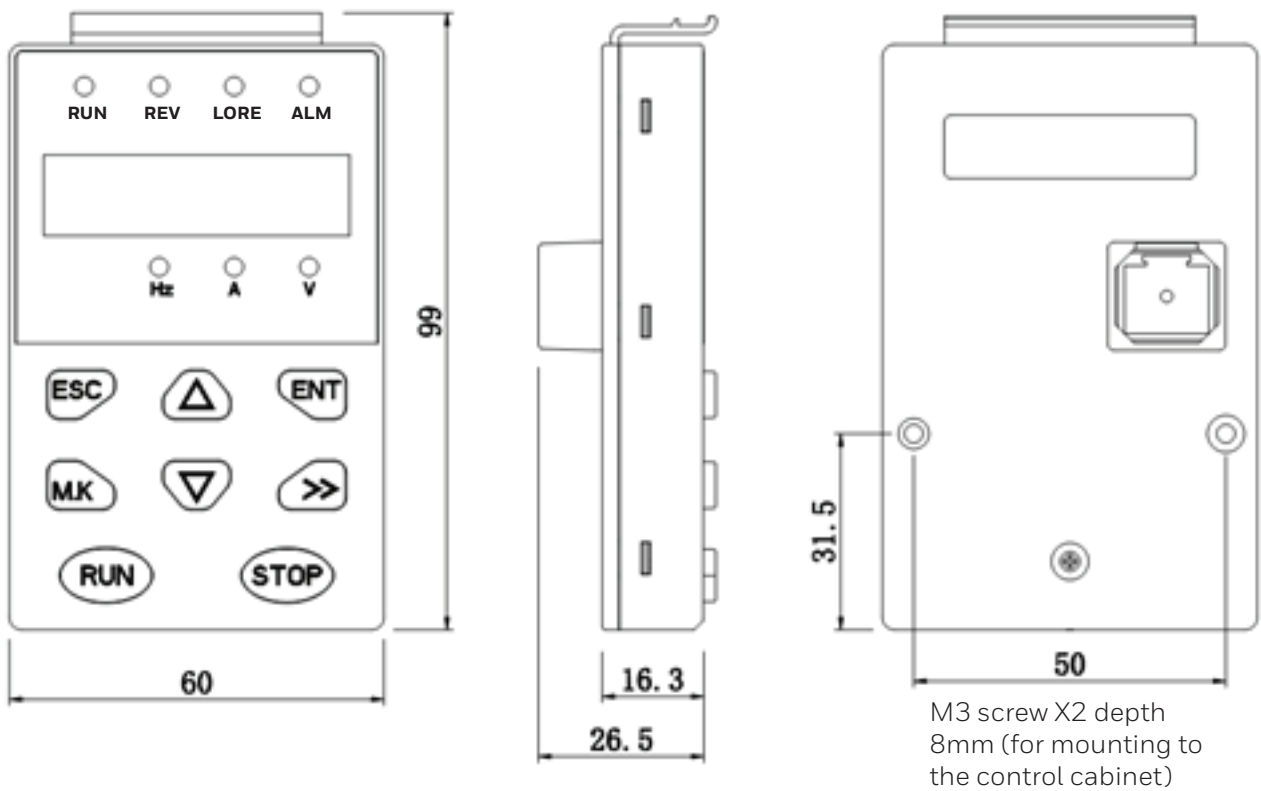


Fig. 2 - Keypad dimension (Unit: mm)

If you want to install the keypad on the inside of the control cabinet (to prevent the keypad from protruding toward the outside of the control cabinet), use a keypad Bracket. The dimensions of the keypadbracket are shown in Figure. The dimensions of the installation diagram and control cabinet are shown in Figure 3-3.

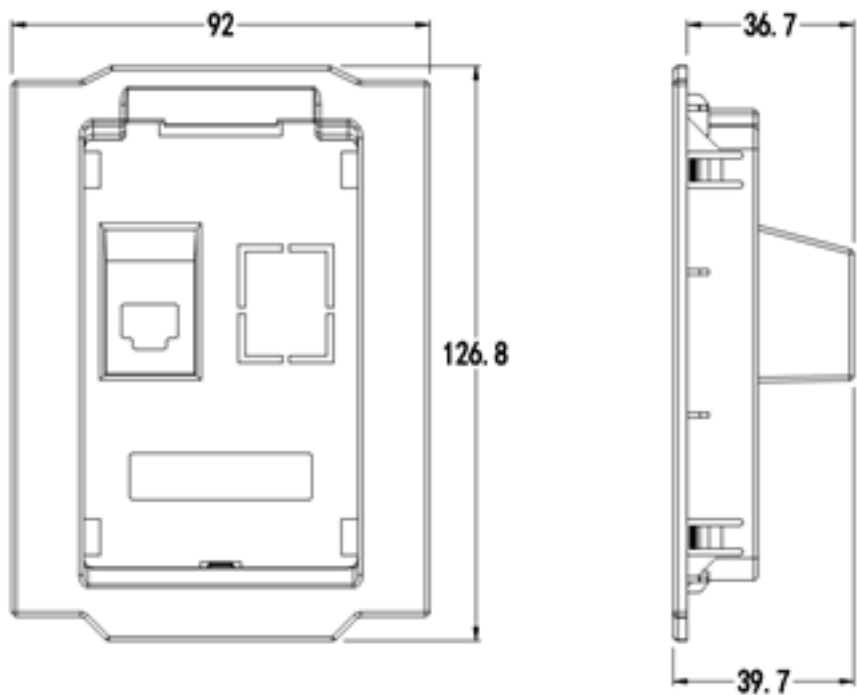


Fig. 3 - Keypad Holder Size (Unit: mm)

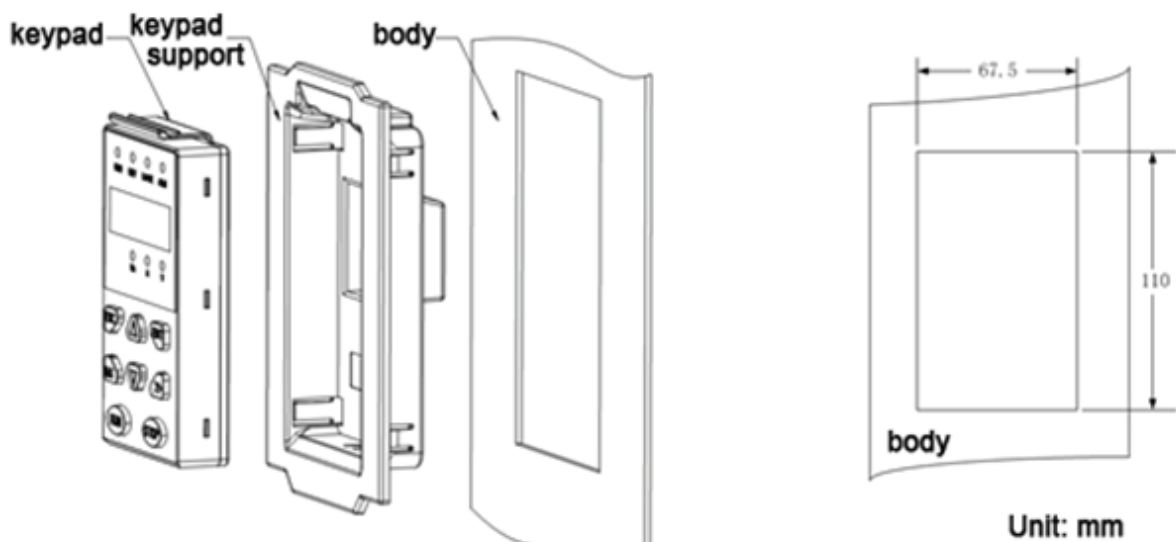


Fig. 4 – Keypad support installation diagram and control cabinet processing dimensions

#### Inverter dimensions and installation dimensions

Size	A	B	H	W	D	Φd	Mounting screws
SIZE A	87	206.5	215	100	170	ø5.0	M4X16
SIZE B	114	239.5	250	130	180	ø5.0	M4X16
SIZE C	159	298	310	180	193	Ø6.0	M5X20
SIZE D	165	350	365	210	205	Ø6.0	M5X20

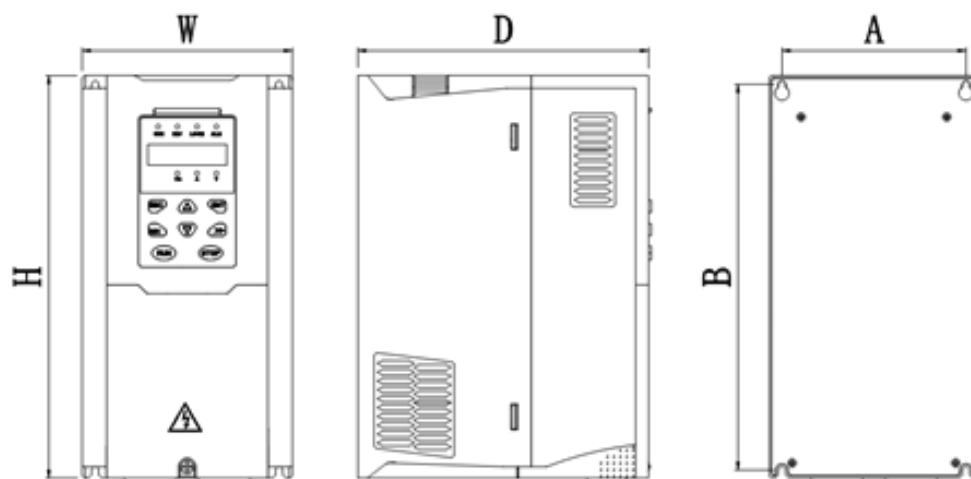
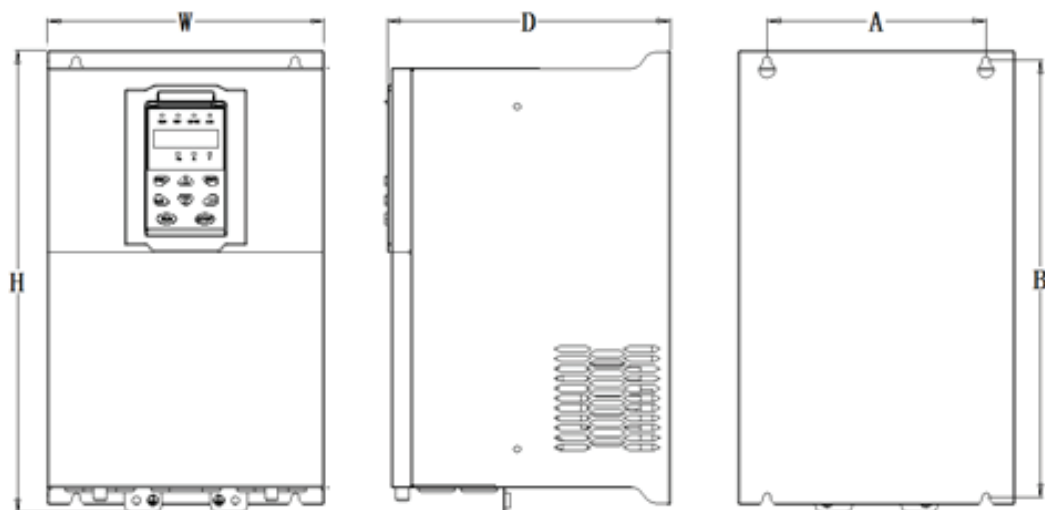


Fig. 5 - SIZE A to SIZE C Dimensions



*Fig. 6 - SIZE D Dimensions*

## LED Instruction of operation and display

LED keyboard consists of 5 digital tubes, 7 lights, 8 keys and a potentiometer; can be used to set the parameters, status monitoring and operation control, LED keyboard shape as shown in Figure 4-1:



*Fig. 7 - Operating panel*

### For more information

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