ENC

Inverter > China Great Brand

CE

ENC ELECTRIC

P
roduct
Selection Brochure

SHENZHEN ENCOM ELECTRIC TECHNOLOGIES CO.,LTD.

Http:www.encvfd.com Email:encvfd@encvfd.com

Tel.:86755-26984485   Fax: 86755-26985120

ENC ELECTRIC

SHENZHEN ENCOM ELECTRIC TECHNOLOGIES CO.,LTD.

About Encom

Company brief introduction

Founding Time: 2004

Company Cert: ISO9001:2008 quality control system approval

Main Item: Frequency Inverter /AC Drive /Variable Frequency Drive/Servo

Production Cert: CE Approval

Number of Employees: 332

Number of research staffs: 50

Factory Size: 7000㎡ brand-new manufacture base

Annual capacity: 400 million

Honor of Encom: National Innovation Fund

    Shenzhen Hi-tech R&D Subsidies

    Business-beginning Subsidies for Student Abroad

    Shenzhen Software Association Member

Company Credit

ISO9001:2008 Certificate

CE Certificate

National High-tech Enterprise

Certificate of Shenzhen Private Technological Enterprise

Cognizance Certificate of Hi-tech Enterprise

Registration Certificate of Software Products

" " Meaning:

1: Shape of it is deformed by e+N+e, and it comes from the pronunciation of the first letter of "Encom", stands for Encom.

2: Two gradient radians represent that Encom is committed to the development of energy conversion technologies, upside means energy input , after transformed by "N"(ENCOM),output through downside radian.

3: The outside part of the overall image is arc (curve), of soft beauty, represent that Encom have a good attitude of friendly, sincere and win-win toward public relations group (customer and so on), the middle part has sharply angular, which means that the internal of company have powerful core strength, rigorous work style, standardized management.

"ENC" meaning: it is the first three letters of Encom, the abbreviation of Shenzhen Encom Electric Technologies CO., LTD.

Type Selection:

EN500-4T0750G/B

B

Code	Accessories
B	Built-in brake unit
D	With LCD display
E	With remote-control keypad

G

Code	Inverter type
G	Constant torque general type
P	Type for blower and water pump

0750

Code	Adaptable motor power (KW)
0002	0.2
0004	0.4
0007	0.75
0015	1.5
⋮	⋮
4000	400

T

Input volt.	code
Three phase	T
Single phase	S

4

Volt. grade	code
220V	2
380V	4
690V	7

EN500

Series name	Series code
Mini type	EDS800N
Universal Vector Type	EN500
Flux Vector Control Type	EN600
For injection molding machine	EN606
Multi-function universal type	EDS1000
Control cabinet type	EDS2800

Parameter table of inverter power and adaptable motor

| Type	Input voltage	Rated power (KVA)	Rated output current (A)	Adaptable motor (KW)	Adaptable motor (HP)
EDS****-2S0002		0.6	1.6	0.2	0.27
EDS****-2S0004		1.1	3	0.4	0.55
EDS****-2S0007	1phase 220V ±15%	1.8	4.7	0.75	1
EDS****-2S0015		2.8	7.5	1.5	2
EDS****-2S0022		3.8	10	2.2	3
EDS****-2S0037		5.6	17	3.7	5
EDS****-4T0007		1.5	2.3	0.75	1
EDS****-4T0015		2.4	3.7	1.5	2
EDS****-4T0022		3.3	5.0	2.2	3
EDS****-4T0037		5.6	8.5	3.7	5
EDS****-4T0055		8.6	13	5.5	7.5
EDS****-4T0075		11	17	7.5	10
EDS****-4T0110		17	25	11	15
EDS****-4T0150		21.7	33	15	20
EDS****-4T0185		25.7	39	18.5	25
EDS****-4T0220	3phase 380V ±15%	29.6	45	22	30
EDS****-4T0300		39.5	60	30	40
EDS****-4T0370		49.4	75	37	50
EDS****-4T0450		60	91	45	60
EDS****-4T0550		73.7	112	55	75
EDS****-4T0750		99	150	75	100
EDS****-4T0900		116	176	90	125
EDS****-4T1100		138	210	110	150
EDS****-4T1320		167	253	132	175
EDS****-4T1600		200	304	160	200
EDS****-4T2000		250	380	200	250
EDS****-4T2200		280	426	220	275
EDS****-4T2500		318	474	250	313
EDS****-4T2800		342	520	280	350
EDS****-4T3150		390	600	315	394
EDS****-4T3500		430	650	350	437
EDS****-4T3750		447	680	375	469
EDS****-4T4000		493	750	400	500
EDS****-7T0110		17	15	11	15
EDS****-7T0150		21.7	18	15	20
EDS****-7T0185		25.7	22	18.5	25
EDS****-7T0220		29.6	28	22	30
EDS****-7T0300		39.5	35	30	40
EDS****-7T0370		49.4	45	37	50
EDS****-7T0450		60	52	45	60
EDS****-7T0550	3phase 690V ±15%	73.7	63	55	75
EDS****-7T0750		99	86	75	100
EDS****-7T0900		116	98	90	125
EDS****-7T1100		138	121	110	150
EDS****-7T1320		167	150	132	175
EDS****-7T1600		200	175	160	200
EDS****-7T2000		250	215	200	250

P roducts series

- EN500 series, multi-functional universal vector inverter(3 phase 380V 75~400Kw)
- EN600 series, high performance flux vector control inverter(3 phase 380V 0.75~55Kw)
- EN606 type, Asynchronous servo control cabinet for Injection molding machine (3 phase 380V 7.5~75Kw)
- EDS780 series easy-fit single-board inverter (1 phase 220V 0.75KW)
- EDS800N series mini universal inverter (1 phase 220V 0.2~1.5KW, 3 phase 380V 0.75-1.5KW)
- EDS1000 series multi-function universal inverter (1 phase 220V 0.4~3.7KW, 3 phase 380V 0.75~55KW, 3 phase 690V 7.5~200KW)
- EDS1100 specialized drawing machine inverter(3 phase 380V 0.75~37KW)
- EDS1300 series intermediate frequency inverter (1000Hz, 1 phase 220V 0.4~2.2KW, 3 phase 380V 0.75~37KW)
- EDS-A200 series single-phase induction motor control inverter (1 phase 220V 0.2~3.7KW)
- EDS2000 series high-performance universal inverter (3 phase 380V 75~ 400KW)
- EDS2800 series current vector control engineering inverter (including special function for injection molding machine, 3 phase 380V 11~75KW)
- EDS2860 series special type with integrated energy save and control for injection molding machine (3 phase 380V 7.5~55KW)

# **U** nique performance characteristic:

1. Adopt control unit which takes DSP as core to realize hi-speed and hi-performance control to the system and to realize low-frequency hi-torque output;

2. Multiple I/O interface to fulfill special demands from every line;

3. Reasonable design of digital potentiometer and 3 classes menu;

4. Standard/optional RS485 communication interface;

5. Support local and remote keypad, extended distance can reach 1000 meters;

6. Keypad parameter copy function;

7. Password protection function;

8. Open product development platform, easy to customize.
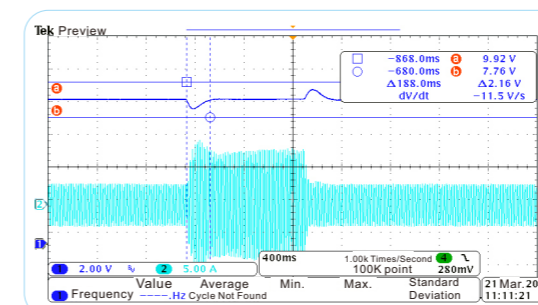
Performance Features

High-level of dynamic response
(Real test waveforms of EN600)
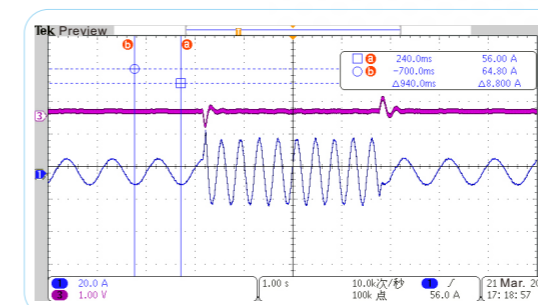
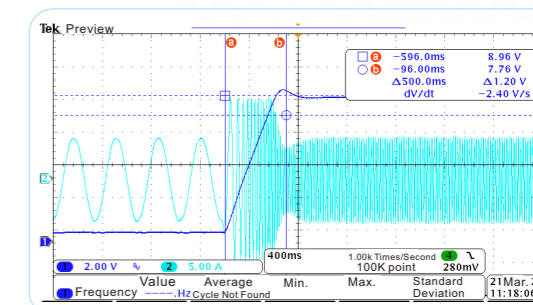
At 1Hz, Suddenly load /unload 100%
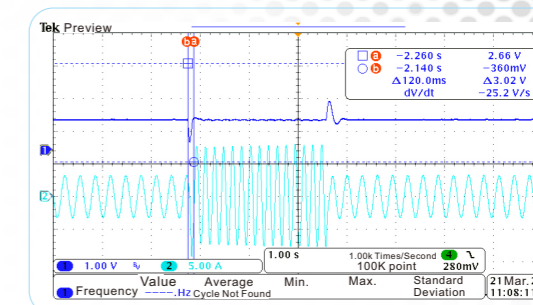
At 3Hz, Suddenly load/unload 180%

At 50Hz, Suddenly load/unload 150%

Rapidly accelerate to 50Hz with 100% load

Quality Guarantee

World-leading quality guarantee system

Specification

EDS800N/EDS1000/EDS2000/EDS2800

Item		Item description
Input	Rated volt., frequency	
	Allowed work volt. range	
output	Voltage	
	Frequency	
	Over loading capacity	G type: 150% of rated current for 1 minute 200% of rated current for 0.5s; P type: 120% of rated current for 1 minute (for type of 3.7kw~132kw); 110% of rated current for 1 minute, 150% of rated current for 1 second (for type of above 160kw) EDS2800/EDS2860 series: 150% of rated current for 3 minutes，200% of rated current for 5 seconds
Control performance	Control mode	EDS2000 series: Optimal space voltage vector PWM control; EDS2800/EDS2860: simple current vector control EDS1000 series: Speed sensorless slip vector control, open loop V/F control EDS800N series: optimal space voltage vector SVPWM constant voltage frequency ratio V/F control
	Speed regulation range	1:100
	Start-up torque	150% of rating torque at 3 Hz for EDS2000 series; 100% of rating torque at low frequency for EDS800N series; 150% of rating torque at 1 Hz for EDS1000 series; 130% of rating torque at 1 Hz for EDS2800/EDS2860 series .
	Running speed stable state precision	≤±0.5% of rating synchronous speed
	Frequency precision	Digital setting: max. frequency×±0.01%；analog setting: max. frequency×±0.5%
	Frequency resolution — Analog setting	0.1% of max. frequency
	Frequency resolution — Digital setting	0.01Hz (EDS2000/EDS800N), if <100Hz: 0.01Hz; if ≥100Hz: 0.1Hz.
	Frequency resolution — Exterior pulse	0.1% of max. frequency; EDS800N/1000 series is 0.5% of max. frequency;.
	Frequency resolution — Digital keyboard settings	0.01Hz(EDS2000)
	Torque boost	Automatic torque boost , manual torque boost 0.1%~20.0% (EDS2000/EDS800N); Automatic torque boost , manual torque boost 0.1%~ 12 .0% (EDS1000).
	V/F curve (volt. frequency characteristic)	Set rating frequency randomly at range of 5~400Hz, can choose constant torque, degressive torque 1, degressive torque 2, degressive torque 3 and user defined V/F curve in total 5
	Accelerating decelerating curve	3 kinds of modes: straight line accelerating decelerating, Scurve accelerating decelerating and automatic Acce/Dece mode; 4 kinds of Acce/Dece time (unit of minute/second can be Optioned), max. is 6000 minutes. EDS1000 series has two modes: straight line accelerating decelerating, and S curve accelerating Decelerating; 7 kinds of accelerating decelerating time (unit of minute/second can be optioned), max . is 6000 minutes.
brake — Power consumption brake		Built-in or exterior braking resistance (EDS800N built-in braking unit, exterior braking resistance), details refer to manual.
brake — DC brake		Optional start-up and stop, action frequency 0~15Hz, action volt. 0~15% , action time 0~20.0 s
	Jog	Jog frequency range：0.50Hz~50.00Hz; jog accelerating decelerating time 0.1~60.0s can be set
	Multi-section speed running	Realized by interior PLC or control terminal
	Interior PID controller	Be convenient to make closed-loop system
	Automatic energy save running	Optimize V/F curve automatically based on the lo ad to realize power save running
	Automatic volt. regulation (AVR)	Can keep constant output volt. When power source voltage varies.
	Automatic current limiting	Limit running current automatically to avoid frequent over-current which will cause trip

| Item		Item description
Ruming function	Running order specified channel	Keypad provision, control terminal provision, serial port provision
	Running frequency specified channel	Digital provision, analog provision, impulse provision, serial port provision, combined provision, can be switched at any time by kinds of method
	Pulse output channel	Impulse square wave signal output of 0~50KHz (for EDS1000/EDS800N it is 0~20KHz) can realize output of physical parameter such as setting frequency, output frequency and etc.
	Analog output channel	2 channel of analog signal output, each can be 4~20mA or 0~10V (for EDS800N series: 1 channel of analog signal output) ,through them the inverter can realize output of physical parameter such as setting frequency, output frequency and etc.
	Special channel of EDS2800	2-channel 0-1A isolated analog input signal
Keypad	LED display	Can display setting frequency, output frequency, output voltage, output current etc. in total 20 kinds of parameter (EDS800N has 14 kinds of parameter)
	Button lock	Lock all of the buttons; For EDS1000/EDS800N: Lock all or part of the buttons(analog potentiometer can't be locked)
	Parameters copy	Parameters can be quickly copied. by using of keyboard and remote-control keypad(EDS800N/EDS1000 series haven't this function)
	Protection function	Over-current protection, over-voltage protection, lack-voltage protection, over-heat protection, over-load protection etc.
	Optional parts	Brake subassembly, remote-control keypad, connecting cable for remote-control keypad etc.
Ambient	Use ambient	Indoor, not bare to sunlight, no dust,no corrosive gas,no flammable gas, no oil fog, no vapor, no water drop or salt etc.
	Altitude	Lower than 1000m
	Ambient temperature	-10ºC~ +40ºC(If ambient temperature 40ºC ~50ºC, please derate or strengthen heat sink
	Ambient humidity	Smaller than 95%RH, no condensation water
	Vibration	Smaller than 5.9m/s² (0.6g)
	Storage temperature	-40ºC~+70º C
Configuration	Defending grade	IP20
	Cooling mode	By fan with automatic temperature control
	Mounting mode	Wall-amount for type of 132kwG/160kwP and below, cabinet/wall-amount for type of 160kwG/200kwP and above, all of the EDS2800 series are wall-amoun t.

(Actual specification shall be a bit different from above depending on different types, please refer to user's manual or consult with us when you choose our products)

ENC

EN500 multifunctional universal vector frequency inverter

1. With Self-learning, speed tracking, And slip vector control function;
2. Compact, easy to install, And high cost performance;
3. Full-featured universal vector inverter, cabinet/wall-mounting type integration design;
4. Standard built-in reactor for type above 90kw(internal);
5. Abundant peripheral extension function: Bus, terminal, relay, analog extension;
6. Abundant users features: constant pressure water supply, traverse control, droop control, fixed length control and etc.
7. Abundant communication function: Free protocol, Modbus protocol, Extended CAN bus, Profibus and etc.

**Voltage degree:** 3 phase 380V   **Power rage:** 75kw~400kw
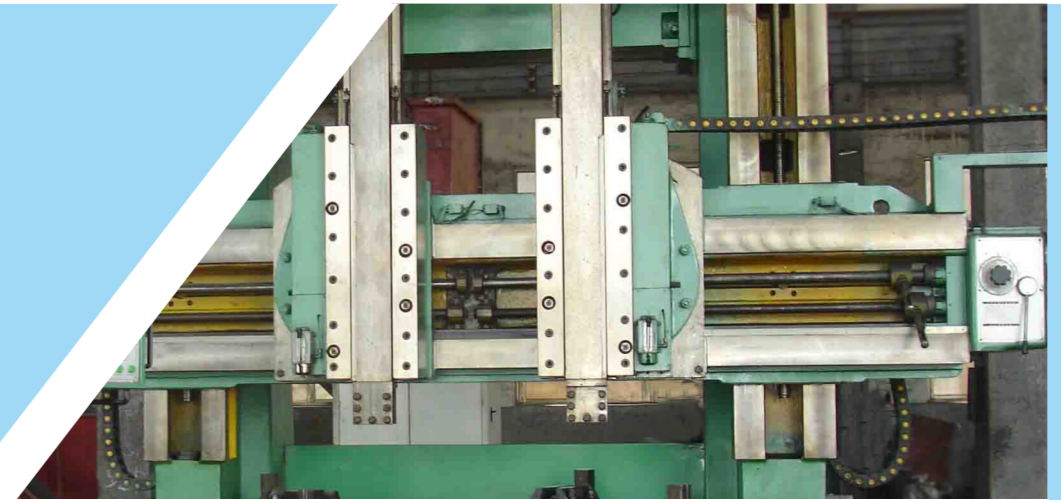
Application industry

Applied to metal working machinery, plastic machinery, various machine tool, printing, textile printing, papermaking, automatic machinery, urban municipal engineering, Heating Ventilation Air Conditioning, constant pressure water supply, sewage treatment and other industries. It is also equipped with food machinery, printing machinery, industrial air conditioner, textile machinery, water supply and the production reconstruction of plastic, chemical fiber, cement and ceramic etc. It is also widely demanded in the market of fun and pump devices about the industries of petrifaction, oil refining, thermoelectricity, water supply, heat supply and other industries.

Outer size
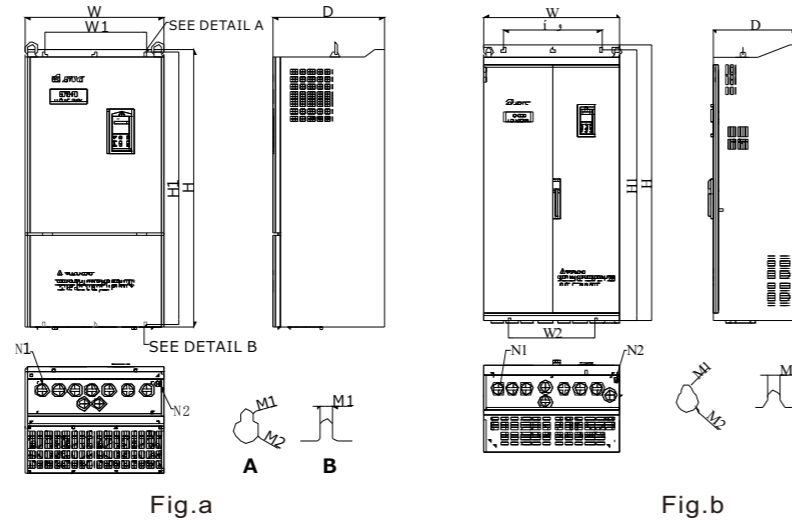
Fig.a

Fig.b

Mounting size and series type explanation

Inverter type	Rated output Current(A)	Adaptable motor(KW)	H (mm)	H1 (mm)	W (mm)	W1 (mm)	W2 (mm)	D (mm)	N1 (mm)	N2 (mm)	M1 (mm)	M2 (mm)	Fig.
EN500−4T0750G/0900P	150/176	75/90	570	546	340	237	-	320	-	-	Φ12	Φ18	Fig.a
EN500−4T0900G/1100P	176/210	90/110											
EN500−4T1100G/1320P	210/253	110/132	650	628	400	297	-	340	-	-	Φ12	Φ18	
EN500−4T1320G/1600P	253/304	132/160											
EN500−4T1600G/2000P	304/380	160/200	980	953	480	370	-	400	Φ38	Φ19	Φ9	Φ18	
EN500−4T2000G/2200P	380/426	200/220	1030	1003	500	370	-	400	Φ38	Φ19	Φ9	Φ18	
EN500−4T2200G/2500P	426/474	220/250											
EN500−4T2500G/2800P	474/520	250/280	1368	1322	700	500	440	430	Φ52	Φ19	Φ12	Φ22	Fig.b
EN500−4T2800G/3150P	520/600	280/315											
EN500−4T3150G/3550P	600/650	315/355											
EN500−4T3550G/3750P	650/680	355/375	1518	1483	700	500	500	430	OB 77*47	Φ19	Φ12	Φ22	
EN500−4T3750G/4000P	680/750	375/400											
EN500−4T4000G/4500P	750/800	400/450											

Accessories base

Converter and base corresponding relational tables

Inverter type	Base type			
	Standard base	With input reactor	With output reactor	With DC reactor
EN500−4T0750G/0900P	SP−BS−0900	SP−BS−0750−LI	SP−BS−0900−L0	SP−BS−0750−LD
EN500−4T0900G/1100P		SP−BS−0900−LI	SP−BS−0900−L0	−
EN500−4T1100G/1320P	SP−BS−1320	SP−BS−1100−LI	SP−BS−1100−L0	−
EN500−4T1320G/1600P		SP−BS−1320−LI	SP−BS−1320−L0	−
EN500−4T1600G/2000P	SP−BS−1600	SP−BS−1600−LI	SP−BS−1600−L0	−
EN500−4T2000G/2200P	SP−BS−2200	SP−BS−2000−LI	SP−BS−2000−L0	−
EN500−4T2200G/2500P		SP−BS−2200−LI	SP−BS−2200−L0	−
EN500−4T2500G/2800P	SP−BS−4000	SP−BS−2500−LI	SP−BS−2500−L0	−
EN500−4T2800G/3150P		SP−BS−2800−LI	SP−BS−2800−L0	−
EN500−4T3150G/3550P		SP−BS−3150−LI	SP−BS−3150−L0	−
EN500−4T3550G/3750P		SP−BS−4000−LI	SP−BS−4000−L0	−
EN500−4T3750G/4000P		SP−BS−4000−LI	SP−BS−4000−L0	−
EN500−4T4000G/4500P		SP−BS−4000−LI	SP−BS−4000−L0	−

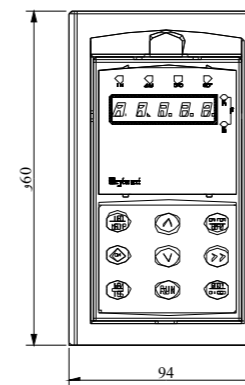## Outer size of keypad and its fixing box(unit：mm)

Fig.e Mounting size of KB25
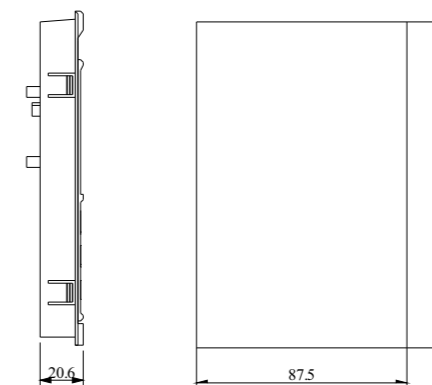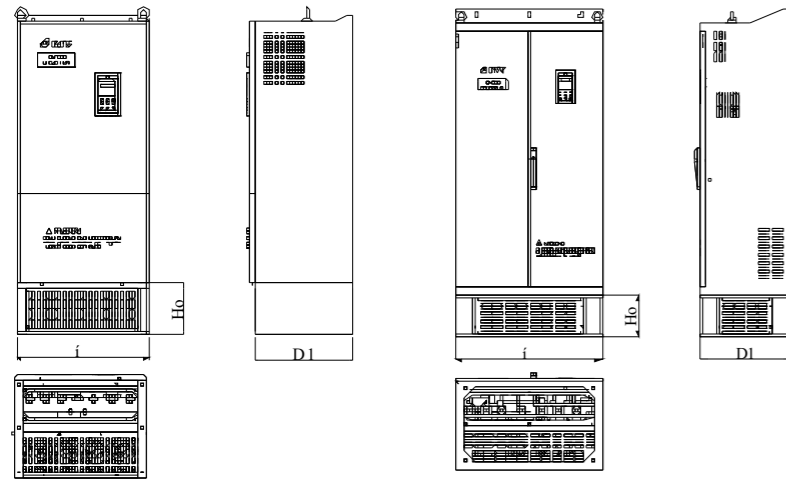
Fig.f Hole size of KB25 keypad

Base dimension

Fig.c　　　　　Fig.d

Base size

Base type	W (mm)	D1 (mm)	Ho (mm)	Fig.
SP-BS-0900	340	300	180	
SP-BS-0750-LI				
SP-BS-0750-LD				
SP-BS-0900-LI	340	300	350	
SP-BS-0900-L0				
SP-BS-1320	400	320	180	
SP-BS-1100-LI				
SP-BS-1100-L0	400	320	380	
SP-BS-1320-LI				Fig.c
SP-BS-1320-L0				
SP-BS-1600	480	380	180	
SP-BS-1600-LI	480	380	400	
SP-BS-1600-L0				
SP-BS-2200	500	380	200	
SP-BS-2000-LI				
SP-BS-2000-L0	500	380	400	
SP-BS-2200-LI				
SP-BS-2200-L0				
SP-BS-4000	700	430	204	
SP-BS-2500-LI				
SP-BS-2500-L0				
SP-BS-2800-LI	700	430	400	Fig.d
SP-BS-2800-L0				
SP-BS-3150-LI				
SP-BS-3150-L0				
SP-BS-4000-LI	700	430	450	
SP-BS-4000-L0				

Product technic index and spec.

Item		Item description
Input	Rating volt.,frequency	3 phase 380V:60Hz
	Allowed volt. range	320~460V
Output	Voltage	0~380V
	Frequency	0~650Hz
	overload capacity	Gtype:150% of rated current for 1 minute ; Ptype:120% of rated current for 1 minute.
Control performance	Control mode	speed sensorless vector control, open loop V/F control
	Speed regulation range	1:100
	Start-up torque	150% of rated torque at 0.5Hz
	Running speed stable state precision	≤±0.5% of rating synchronous speed
	Frequency precision	Digital setting: max. frequency x ± 0.01% Analog setting: max. frequency x ± 0.5%
	Frequency resolution — Analog setting	0.1% of max. frequency
	Frequency resolution — Digital setting	The precision less than 100HZ：0.01Hz
	Frequency resolution — Exterior impulse	0.1% of max. frequency
	Torque boost	Automatic torque boost, manual torque boost 0.1~12.0%
	V/F curve(volt. frequency characteristic)	Set rating frequency randomly at range of 5~650Hz,can choose constant torque, degressive torque 1,degressive torque 2,degressive torque 3,user defined V/F curve in total 5 kinds of curve
	acceleration and deceleration curves	2 modes:linear acceleration and deceleration and "S"acceleration and deceleration; 15 types of acceleration and deceleration time, the time unit is optional(0.01s,0.1s,1s), the max is 1000 minutes

Item		Item description
Control performance	Brake — Power consumption brake	The brake unit can be connected externally between P+ and P- when it is necessary
	DC brake	Optional start-up and stop,action frequency 0~15Hz,action current 0~100%,action time 0~30.0s
	Jog	JOG frequency range: 0.00–upper limiting frequency JOG acceleration/deceleration time: 0.0–6000.0s
	Multisection speed running	Mutisection speed operation can be achieved by interior PLC or control terminal. As many as 15sections, which has their own acceleration and deceleration time. The interior PLC supports power down save.
	Interior PID controller	It realizes process-controlled closed loop control system easily.
	Automatic energy-saving operation	Optimize automatically V/F curve base on condition of loading, achieving energy-saving operation.
	Automatic voltage regulate(AVR)	It can keep constant output voltage automatically when the mains voltage changes.
	Automatic current limiting	The current is limited automatically during the running process so as to avoid frequent tripping due to overcurrent.
	carrier modulation	The carrier frequency is automatically adjusted based on the load features.
	Speed tracking restart	Make the rotating motor smooth start without shocking
Running function	Running order specified channel	Keypad setting, control terminal setting, communication setting, which can be changed by many ways.
	Running frequency specified channel	Main and complement setting realizing a main adjustment and fine tuning control. Digital setting , analog setting , impulse setting , pulse-width setting , communication setting and other settings can be switch freely
	Binding function	Running order channel and frequency specified channel can be bond arbitrarily, change synchronously
Inputand Output characte	Digital input termina	8 digital input (DI) terminals , the max frequency is 1KHZ, one of which support up to 50KHz. The digital terminal can be expanded to 14 terminals.
	Analog input terminal	2 analog input (AI) terminal, AI1 can choose 4～20mA or 0～10V as output, AI2 is differential input, 4～20mA or -10～10V input is available. The analog terminal can be expanded to 4 terminals
	Pulse output terminal	Impulse square wave signal output of 0～20KHZ, can realize output of physical quantity such as setting frequency,output frequency etc.
	Analog output terminal	2 analog signal output terminal, AO1 can be 4~20mA or 0~10V, AO2 can be 4~20mA or 0~10V; through them the inverter can realize output of physical quantity such as setting frequency, output frequency etc. And can be expanded to 4 channel output.This output analog terminal can be expanded to 4 terminals
Unique feature	Rapid current limiting	Limit inverter over current to the greatest degree, making it running reliably
	Monopulse control	Suitable for the inverter with one key that controls the inverter on or off, which is simple and reliable to operate.
	Fixed length control	Can realize fixed length control
	Timing control	Time range: 0.0–6500.0 minutes
	Virtual I/Os	5 groups virtual input, output IO, can realize simple logical control
keypad	LED display	The parameters like setting frequency, output frequency,output voltage,output current can be displayed
	Lock the button	Lock all or part of the buttons.
	Protection function	Motor short-circuit detection at power-on, input/output phase loss protection, overcurrent protection, overvoltage protection, undervoltage protection, overheat protection and overload protection, relay protection, terminal protection and non stop protection when power off.
Ambient	Use ambient	Indoor, free from direct sunlight, dust, corrosive gas,combustible gas, oil smoke, vapour, drip or salt.
	Altitude	Less than 1000 meters.（derate if higher than 1000meters, output current will be reduced by 10% of rated current for every 1000 meters increase)
	Ambient temperature	−10℃~+40℃(under ambient temperature 40℃~50℃,please reduce the volume or strengthen heat sink)
	Ambient humidity	Less than 95%RH，without condenses
	Vibration	Smaller than 5.9m/s² (0.6g)
	Storage temperature	−40℃ ~+70℃
Structure	Protection level	IP20
	Cooling mode	Forced air-cooling
	Mounting mode	Wall hanging and cabinet standing

EN600 series high performance flux vector control frequency inverter

1. Various control mode, including speed sensorless vector control, closed-loop vector control, optimization of V / F control. Possess speed control and torque control methods. Can be used in various application demands

2. Adopt excellent flux vector control algorithm, making the inverter control high precision, fast speed reaction, excellent low frequency features

3. High precision speed control,±0.5% rated synchronous speed(without PG vector control);±0.1% rated synchronous speed （with PG vector control）；±1% rated synchronous speed （V/F control）

4. Self-learning function, unique rotate speed tracking, precise control and more flexible.

5. Compact construction, high power density, easy installation and high cost performance.

6. Abundant peripheral expansion function ,realizing the expansion function of bus, terminal, relay and analog.

7. Support CAN Open, CAN Link, Profibus, Modbus and free protocol, making the bus control easily.

8. Support local single LED display, double display keyboard, remote LCD keyboard.

9. Intelligent protection and inspection, with the function of input phase missing protection, output phase missing protection, output interphase short circuit protection and output Earth-leakage protection.

Applied industry: Metalworking machinery, plastic machinery, printing, textile printing, papermaking, urban municipal engineering, chemical fiber,cement,ceramic,tension control, elevating gear,elevator control,rapid injection,various machine tools,petrochemicals, metallurgy

Voltage degree: 3 phase 380V

Power range: 0.75～55kw

1 Outer size
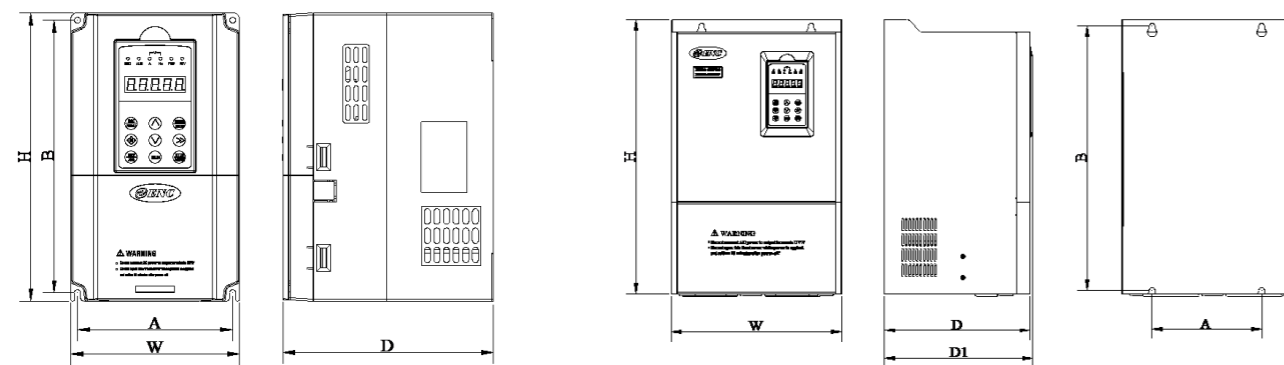

Fig. a   Fig. b

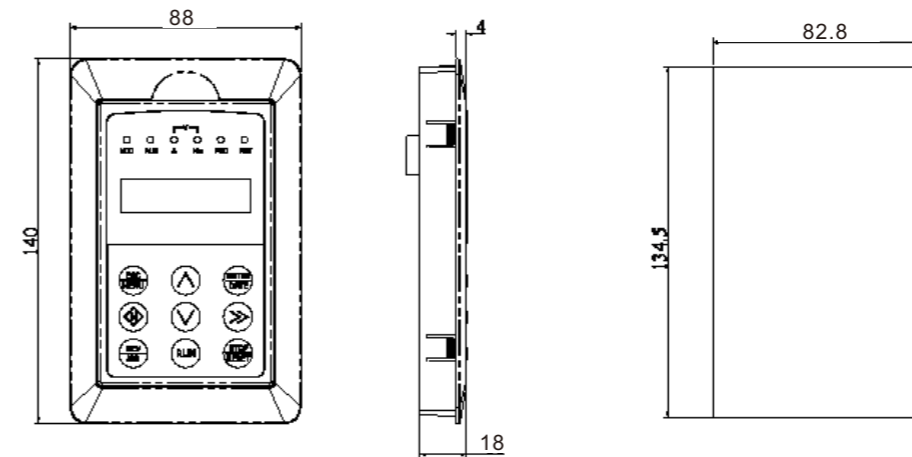## 2 Outer size of keypad and its fixing box(unit：mm)

Fig.c EN-LED1 keypad mounting size   Fig.d hole size of keypad

3 Mounting size and series type explanation

Inverter type	Rated output Current(A)	Adaptable motor(KW)	A (mm)	B (mm)	W (mm)	H (mm)	D (mm)	D1 (mm)	Diameter (mm)	Fig. No.
EN600-4T0007G/0015P	2.3/3.7	0.75/1.5	104	186	115	200	151	-	5	Fig.a
EN600-4T0015G/0022P	3.7/5	1.5/2.2								
EN600-4T0022G/0037P	5/8.5	2.2/3.7								
EN600-4T0037G	8.5	3.7	129	227	140	240	175	-	5	Fig.a
EN600-4T0055G	13	5.5								
EN600-4T0055G/0075P	13/17	5.5/7.5								
EN600-4T0075G/0110P	17/25	7.5/11								
EN600-4T0110G/0150P	25/33	11/15	165	281	180	304	189	-	6	Fig.a
EN600-4T0150G/0185P	33/39	15/18.5								
EN600-4T0185G/0220P	39/45	18.5/22	180	382	250	398	210	214	9	Fig.b
EN600-4T0220G/0300P	45/60	22/30								
EN600-4T0300G/0370P	60/75	30/37	180	434	280	450	240	244	9	Fig.b
EN600-4T0370G/0450P	75/91	37/45								
EN600-4T0450G/0550P	91/112	45/55	190	504.5	290	530	250	254	9	Fig.b
EN600-4T0550G/0750P	112/150	55/75								

Shenzhen Encom reserves the right to make changes to the product or information contained in this Brochure due to technical upgrade etc. without notice.

4 Product technic index and spec.

| Item		Item description
Input	Rated volt.,frequency	3 phase 380 volt. level : 3 phase 380V , 50Hz/60Hz
	Allowed volt. range	320～460V
Output	Voltage	0～380V
	Frequency	0～600Hz
	Over loading capacity	G type：150% of rated current for 1 minute P type：120% of rated current for 1 minute.
Control performance	Control mode	Vector control（Without PG);Vector control（with PG);Open-loop V/F control;Torque control (without PG);Torque control（with PG)
	Speed control precision	±0.5% rated synchronous speed（without PG vector control）
		±0.1% rated synchronous speed（with PG vector control）;
		±1% rated synchronous speed（V/F control） ;
	Speed regulation range	1：2000（with PG vector control） ;
		1：100（without PG vector control） ;
		1：50（V/F control） ;
	Start-up torque	1.0Hz：150% rated torque（V/F control） ;
		0.5Hz：150% rated torque(without PG vector control）;
		0Hz：180% rated torque（with PG vector control） ;
	Speed fluctuation	±0.3% rated synchronous speed（without PG vector control） ;
		±0.1% rated synchronous speed（with PG vector control）;
	Torque control precision	±10% rated torque（without PG vector control，without PG torque control） ;
		±5% rated torque（with PG vector control, with PG torque control)
	Torque response	≤20ms（without PG vector control） ;
		≤10ms（with PG vector control） ;
	Frequency precision	Digital setted：max.frequency×±0.01%；Analog setted：max.frequency×±0.5%
	Frequency resolution — Analog setting	0.1% of max.frequency
	Frequency resolution — Digital setted precision	0.01Hz
	Frequency resolution — Exterior impulse	0.1% of max.frequency
	Torque boost	Automatic torque boost, manual torque boost 0.1～12.0%
	V/F curve(volt. frequency characteristic)	Set rated frequency arbitrarily at range of 5～650Hz,can choose constant torque, degressive torque 1,degressive torque 2,degressive torque 3,user defined V/F curve in total 5 kinds of curve
	Acceleration and deceleration curves	2 modes:linear acceleration and deceleration and "S" acceleration and deceleration; 15 types of acceleration and deceleration time, the time unit is optional(0.01s,0.1s,1s), the max is 1000 minutes
	Brake — Power consumption brake	The 15kw power and below 15kw with built-in brake unit,brake resistor added between (+) and PB;The 18.5kw and above 18.5kw can add externally brake unit between (+) and (-) when necessary.
	Brake — DC brake	Optional start-up and stop, action frequency 0～15Hz,action current 0～100%,action time 0~30.0s
	Jog	The range of jog frequency：0Hz~the max frequency；jog acceleration and deceleration time 0.1~6000.0S can be setted
	Multisection speed running	Multisection speed operation can be achieved by interior PLC or control terminal. As many as 15 sections, which has their own acceleration and deceleration time. The interior PLC supports power down save.
	Interior PID controller	Be convenient to make closed-loop system

Item		Item description
Control performance	Automatic energy-saving operation	Optimize automatically V/F curve base on condition of loading, achieving energy-saving operation.
	Automatic voltage regulate(AVR)	Automatically keep output voltage constant, when on-grid voltage vary
	Automatic current limiting	Automatic current limiting when operation, in case of the malfunction of frequent over current causing trip
	Carrier modulation	Modulate carrier automatically based on the characteristic of load.
	Speed tracking restart	Make the rotating motor smooth start without shocking
Running function	Running order specified channel	Keypad specified, control terminal specified, communication specified, which can be changed by many means
	Running frequency specified channel	Main and side specified, realizing a main adjustment and fine control. Digital, analog, impulse, pulse-width, communication specified and other specified can make switch come true
	Binding function	Running order channel and frequency specified channel can be bond arbitrarily, change synchronously
Input and Output character	Digital input channel	8 digital input (DI) terminals , the max frequency is 1KHZ, one of which support up to 50KHz. The digital terminal can be expanded to 14 terminals.
	Analog input channel	2 analog input (AI) terminal, AI1 can choose 4～20mA or 0～10V as output, AI2 is differential input, 4～20mA or -10～10V is available. The analog terminal can be expanded to 4 terminals
	Pulse output channel	Impulse square wave signal output of 0～20KHZ, can realize output of physical parameter such as setting frequency,output frequency etc.
	Analog output channel	2 analog signal output terminal, AO1 can be 4～20mA or 0～10V, AO2 can be 4～20mA or 0～10V; through them the inverter can realize output of physical value such as setting frequency, output frequency etc. And can be expanded to 4 channel output.This output analog terminal can be expanded to 4 terminals
Unique feature	Rapid current limit	Limit inverter over current to the greatest degree, making it running reliably
	Monopulse control	Suitable for the inverter with one key that controls the inverter on or off, which is simple and reliable.
	Fixed length control	Can realize fixed length control
	Timing control	Time range: 0.1–6500.0 minutes
	Virtual terminal	Five groups of virtual DI/Dos can realize simple logic control.
keypad	LED display	The parameters like setting frequency, output frequency,output voltage,output current can be displayed
	Lock the button	Lock all or part of the buttons.
Protection function		Motor short-circuit detection at power-on, input/output phase loss protection, over-current protection, over-voltage protection, undervoltage protection, overheat protection and overload protection, relay protection, terminal protection and non stop protection when power off.
Ambient	Use ambient	Indoor, free from direct sunlight, dust, corrosive gas, combustible gas, oil smoke, vapour, drip or salt.
	Altitude	Less than 1000 meters. (reduce amount if higher than 1000meters, output current should be reduced to 10% of rated current for every 1000meters)
	Ambient temperature	-10°C to +40°C (de-rated if the ambient temperature is between 40°C and 50°C)
	Ambient humidity	Less than 95%RH, without condenses
	Vibration	Smaller than5.9m/s ² (0.6g)
	Storage temperature	-40℃+70℃
Structure	Defending grade	IP20
	Cooling mode	Intelligent air cooling
Cooking mode		Wall hanging

EDS780 series easy-fit Single-Board Inverter

3

1. Small size, powerful function, extremely high cost performance
2. Widely applicable in all types of control situation which needs installation
3. Adopt space voltage vector SVPWM control
4. Adopt independent 16 steps speed control; control is more accurate and convenient
5. Good adaptability to power supply, can be applied to rural power grids with big fluctuation.
6. Panel control, terminal control and other methods controls can be realized
7. Configuration bulk capacitor can store certain pump energy.
8. Built-in simple PLC function, traverse function, more extensive adaptability.
9. Containing failure memory function, which is more convenient for finding problems.
10. RS485 interface as standard part.

Power range:1 phase 220V 0.75KW
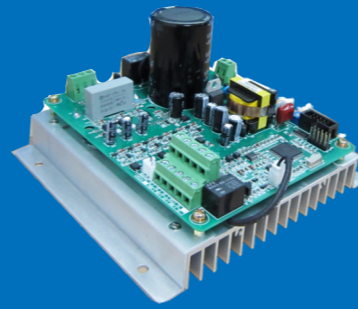
EDS800 Universal mini inverter (CE Approval)

4

1. Small size (124.7*89*148.5mm), high cost performance;
2. Can make up of inverter network independently and can set to be mainframe or sub-device;
3. With potentiometer, keyboard can be pulled outside;
4. With RS485 communication port;
5. Pulse/analog input output channels;
6. 16 segments speed control;
7. Multiple running frequency/command specified channels;
8. Space voltage vector control SVPWM;
9. Hi-performance isolating OC output, AC or DC load of 220V/0.5A can be connected;
10. Traversal function can be widely applied to all kinds of spinning devices;
11. Built-in Braking unit;
12. Built-in user's timer/counter.

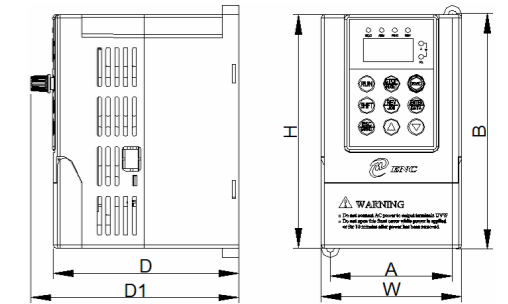**Power range: 1 phase 220V 0.2kw~1.5kw ; 3 phase 380V 0.75kw~1.5kw .**

⚠ WARNING

⊘ Outer dimension
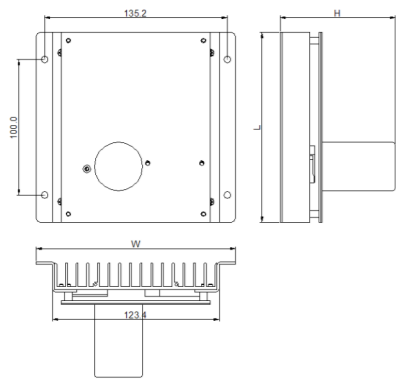
⊘ Installation size

inverter type	W (mm)	D (mm)	H (mm)	A (mm)	B (mm)	Fixing aperture (mm)
EDS780-2S0007	147.4	140.0	85.1	135.2	100	5

⊘ Installation size

Inverter type (G: constant torque load; P: blower and water pump load)	W (mm)	H (mm)	D (mm)	D1 (mm)	Fixing aperture (mm)	Gross weight (kg)	A (mm)	B (mm)
EDS800N-2S0002								
EDS800N-2S0004								
EDS800N-2S0007								
EDS800N-2S0015	89	148.5	112.5	124.7	5	1.2	74	138
EDS800N-4T0007								
EDS800N-4T0015								

⊘ Outer dimension

⊘ Technic index and specifications

	item	Item description
Input	Rated volt., frequency	single phase 220V, 50Hz/60Hz
Input	Allowed work volt. range	single phase AC 220V:140V~260V
output	Voltage	200V grade: 0 -220V
output	Frequency	0Hz-400Hz
	Over loading capacity	Maximum over -load capacity: 230% of rated current
Control performance	Control mode	Space voltage vector SVPWM control
Control performance	Speed regulation range	1:100
Control performance	Start-up torque	150% of rating torque at 1 Hz
Control performance	Running speed stable state precision	≤ ±0.5% of rating synchronous speed
Control performance	Frequency precision	Digital setting: max. frequency×±0.01%; analog setting: max. frequency×±0.5%
Control performance	Frequency resolution — analogsetting	0.1% of max. frequency
Control performance	Frequency resolution — digital setting	0.01Hz
Control performance	Torque boost	Automatic torque boost , manual torque boost 0.1%~ 20%
Control performance	Brake — DC brake	Start-up and stop optional, action frequency 0~15Hz, action volt. 0~15%, action time 0~20.0 s
Control performance	Multi-section s peed running	4 bits 16 sections speed control, each section speed parameter set separately
Control performance	Automatic energy save running	Optimize V/F curve automatically based on the load to realize power save running

⊘ Basic running wiring diagram

Braking resistance(external, optional part, interface at the right side of inverter)

breaker

power supply

②Notice2

forward run/stop — FWD
reverse run/stop — REV
multi-function 1 — X1
multi-function 2 — X2
multi-function 3 — X3
multi-function 4 — X4
multi-function 5 — X5   multi-function5 can be used for high speed pulse input
①Notice 1 — COM

speed command
+10V
0~10V — VCI
0~10V or 4~20mA — CCI
GND

L1 / L2 / L3
+10V   JP3 H [ ] L

P+   PB
U / V / W / PE

M

EDS800N

GND
AO — DC amperometer / 4-20mA current signal or 0~10v voltage signal
DO — Cymometer
COM — Output 12V pulse signal
OC — open circuit collector output
OCG — Maximum 220VAC, 0.5A

TA
TB — Malfunction relay output
TC

485A
485B — Standard RS485 communication port

5

EDS1000 series multi-function universal inverter (CE Approval)

1. Small volume, be suitable for all kinds of field;
2. 150% of rated torque at 1 Hz;
3. Built-in PID controller, can realize constant pressure (flux etc.) "One drives multiple devices" control (function in option);
4. 16 (maximum) section speed control;
5. 0-20KHz pulse input output interface;
6. Spinning traverse function;
7. Bears automatic voltage regulation (AVR) and automatic current limiting function;
8. RS485 interface as standard part, Modbus protocol(default) or Free protocol(upon your requirement).

Power range: 1 phase 220V 0.4kw~3.7kw; 3 phase 380V 0.75kw~55kw;
3 phase 690V 7.5kw~200kw

⚠ WARNING
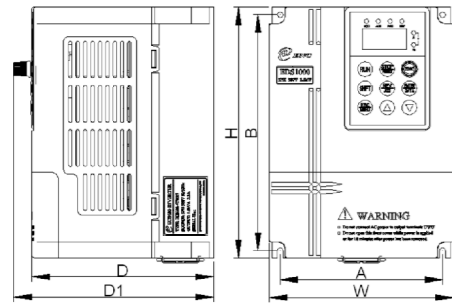
Outer dimension

Fig.a outer dimension
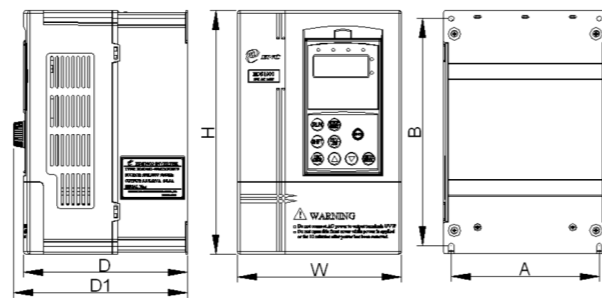
Fig.b outer dimension
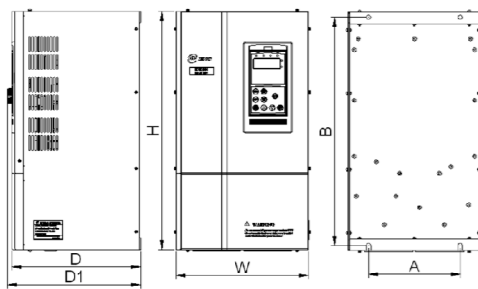
Fig.c outer dimension
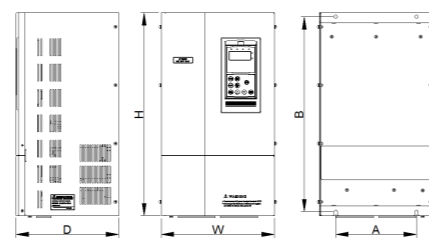
Fig.d outer dimension
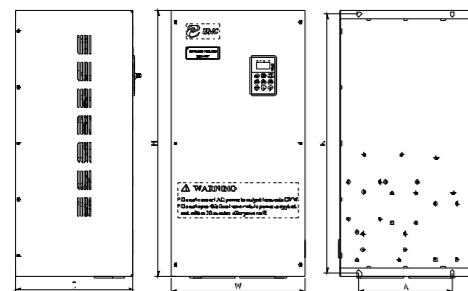
Fig.e outer dimension
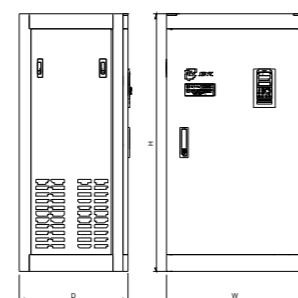
Fig.f outer dimension

Installation size, packing size and gross weight

Inverter type	A(mm)	B(mm)	W(mm)	H(mm)	D(mm)	D1(mm)	Fixing aperture (mm)	Packing size (cm)	Gross weight (kg)	Figure
EDS1000-2S0004	110	160	125	170	123.2	135.5	4	25*20*22	2	Fig.a
EDS1000-2S0007										
EDS1000-4T0007G/0015P										
EDS1000-4T0015G/0022P										
EDS1000-2S0015										
EDS1000-2S0022										
EDS1000-4T0022G/0037P										
EDS1000-2S0037	140	215	155	230	155	164	5	33*24*25	4	Fig.b
EDS1000-4T0037G/0055P										
EDS1000-4T0055G/0075P										
EDS1000-4T0075G/0110P	185	275	200	290	178	187	6	38*29*27	6.5	Fig.b
EDS1000-4T0110G/0150P										
EDS1000-4T0150G/0185P	135	330	218	345	210	221	7	47*34*33	10.5	Fig.c
EDS1000-4T0185G/0220P	180	410	260	430	252	261	9	55*36*34	17	Fig.c
EDS1000-4T0220G/0300P										
EDS1000-4T0300G/0370P	200	485	280	505	252	261	9	63*38*34	23	Fig.c
EDS1000-4T0370G/0450P										
EDS1000-4T0450G/0550P	200	515	300	535	252	261	9	63*40*45	33	Fig.c
EDS1000-4T0550G/0750P										
EDS1000-7T0110G/0150P	200	552	284	570	252.7	-	9	645*360*340	24	Fig.e
EDS1000-7T0150G/0185P										
EDS1000-7T0185G/0220P	280	620	420	650	300	-	9	775*545*525	37	Fig.d
EDS1000-7T0220G/0300P										
EDS1000-7T0300G/0370P										
EDS1000-7T0370G/0450P										
EDS1000-7T0450G/0550P	320	720	500	750	300	-	12	875*625*525	68	Fig.d
EDS1000-7T0550G/0750P										
EDS1000-7T0750G/0900P	400	790	590	820	372	-	12	945*715*595	93	Fig.d
EDS1000-7T0900G/1100P										
EDS1000-7T1100G/1320P										
EDS1000-7T1320G/1600P										
EDS1000-7T1600G/2000P	-	-	630	1200	500	-	-	830*1400*650	135	Fig.f
EDS1000-7T2000G/2200P										

Keypad and keypad installation opening dimension (unit: mm)

EN–KB5

Fig.a Kb5 Outer size

EN–KB6
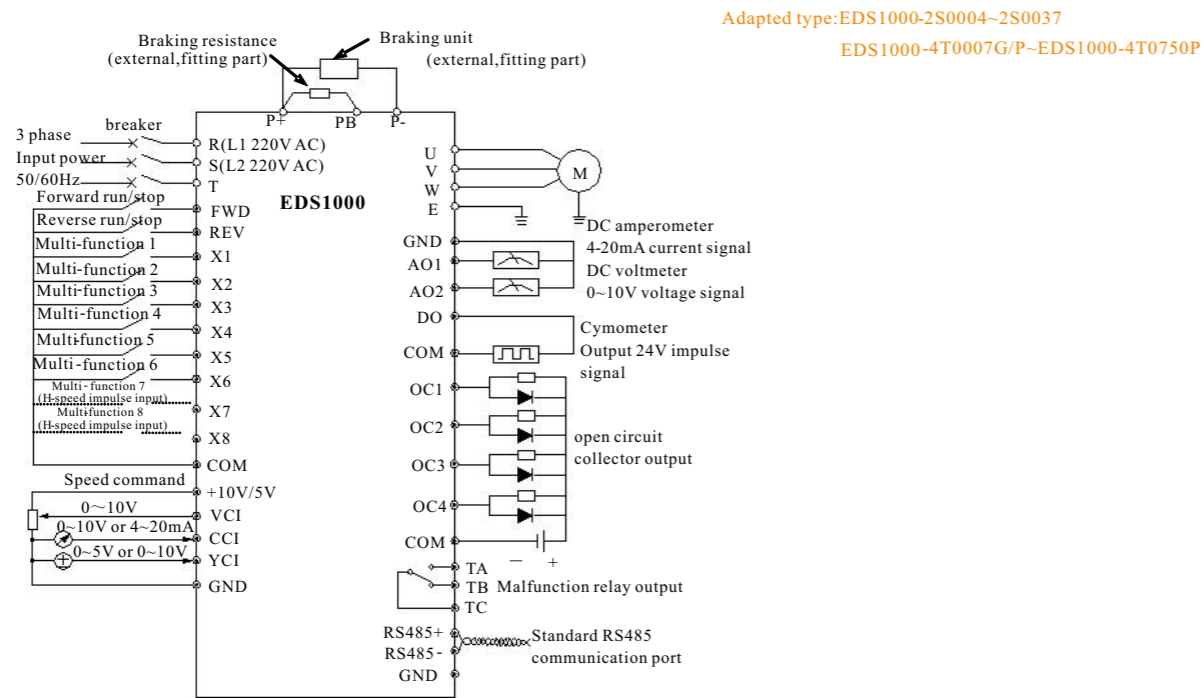
Fig.b Keyboard hole size
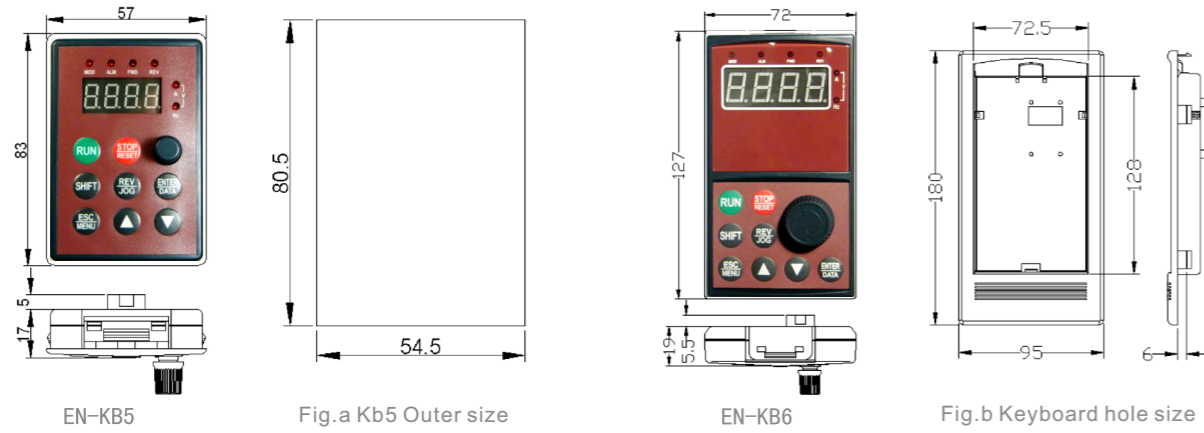
Suitable model :

EDS1000-2S0004～EDS1000-2S0022
EDS1000-4T0007G/P~EDS1000-4T0022G/P

Suitable model :

EDS1000~2S0037
EDS1000-4T0037G/P~EDS1000-4T0550G/P

Basic running wiring diagram

Adapted type:EDS1000-2S0004~2S0037
EDS1000-4T0007G/P~EDS1000-4T0750P

EDS1100 series
inverter for drawing machine:

1. Independently constitute dual-frequency digital PID control system;
2. To identify rolling diameter of line-receiving tray automatically;
3. Automatic identification of mechanical transmission ratio;
4. Automatic identification of diameter of cable;
5. Automatically adjust PID parameters;
6. Automatically track speed of mainframe, and after power on it will go to zero point of tensity balance bar (middle point);
7. Smooth starting, stable running, and constant tension;
8. System simplicity, low cost, easy maintenance, and more stable control effect
Power range: 3 phase 380V 0.75kw~37kw

6

EDS2000 series
hi-performance universal inverter

1、 Takes DSP as the core, Dual CPU Control（Including the keypad CPU control）

2、 Low frequency (1Hz) large output torque.

3、 Great overload capacity. 200% of rated current transiently

4、 10 digital input channel, 3 analog input channel, can accept 0~10V, 0~5V and 4~20mA input single 2 pulse input channel (maximum 50 KHz), 2 OC digital output channel and 1 hi-speed pulse output channel are available.

5、 Two 0~10V voltage and two 4~20mA current analog quantum output channel.

6、 Output channel can be connected to standard secondary meter

7、 16 (maximum) section speed control

8、 RS485 interface as standard part

9、 Remote keypad can be as long as 1000 meters off the inverter.
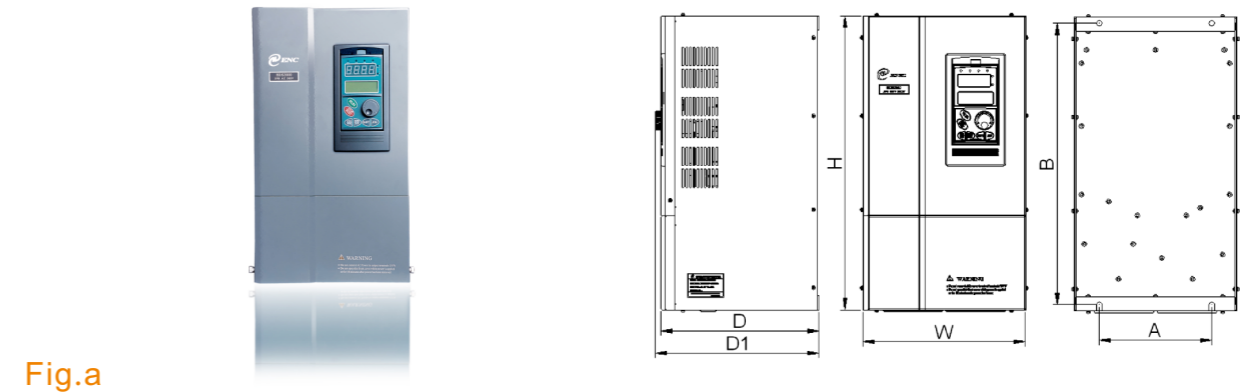
Power range:3 phase 380V 75~450KW
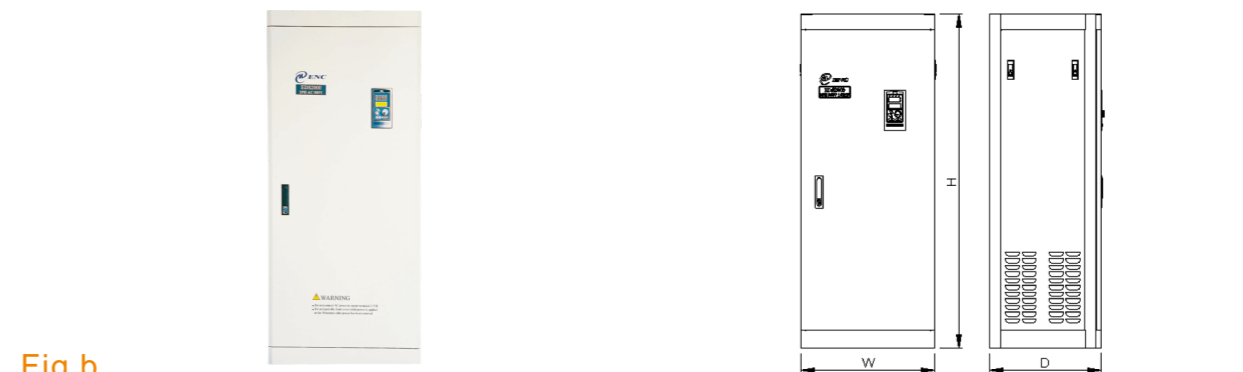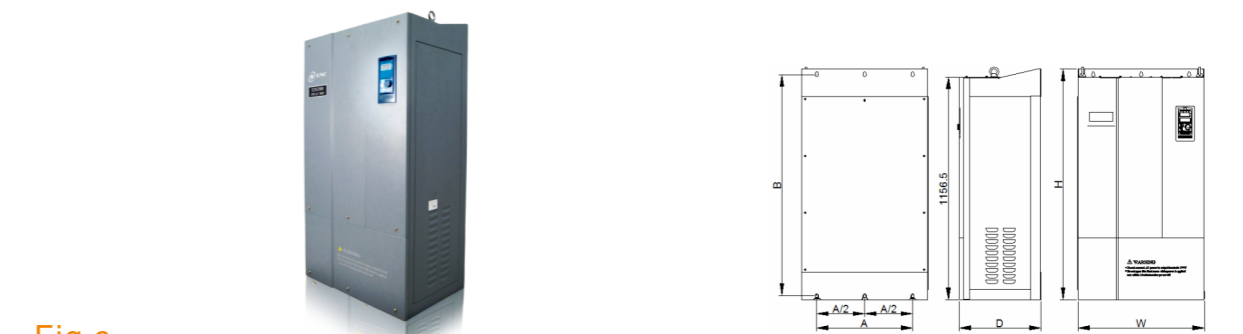
Outer dimension

Fig.a

Fig.b

Fig.c

Installation size, packing size and gross weight

Inverter type	A (mm)	B (mm)	W (mm)	H (mm)	D (mm)	D1 (mm)	Fixing aperture (mm)	Packing size (mm)	Gross weight (kg)	Figure
EDS2000 -4T0750G/4T0900P	300	650	480	680	360	369	12	605*810*570	84	Fig.a
EDS2000 -4T0900G/4T1100P										
EDS2000 -4T1100G/4T1320P	400	720	480	750	372	381	12	605*880*590	98	Fig.a
EDS2000 -4T1320G/4T1600P										
EDS2000 -4T1600G/PA	400	740	480	770	410	—	121	605*900*635	104	Fig.a
EDS2000 -4T2000G/PA	420	1157	560	1200	430	—	14	725*1325*675	165	Fig.c
EDS2000 -4T2200G/PA										
EDS2000-4T2500G/PA	500	1157	660	1200	430	—	14	825*1325*675	190	Fig.c
EDS2000 -4T2800G/PA										
EDS2000 -4T1600G/4T2000P	—	—	600	1500	500	—		765*1665*750	165	Fig.b
EDS2000 -4T2000G/4T2200P	—	—	600	1600	500	—		765*1765*750	195	Fig.b
EDS2000 -4T2200G/4 T2500P										
EDS2000 -4T2500G/4T2800P	—	—	700	1600	500	—		905*1765*765	225	Fig.b
EDS2000 -4T2800G/4T3150P										
EDS2000 -4T3150G/4T3550P										
EDS2000 -4T3550P/4T3750P	—	—	800	1750	550	—		965*1915*800	250	Fig.b
EDS2000 -4T3750G/4T4000P	—	—	900	1800	600	—		1040*1940*870	275	Fig.b
EDS2000 -4T4000G										
EDS2000 -4T4500P	—	—	900	1800	600	—		1040*1940*870	285	Fig.b
EDS2800 -4T0110	140	350	230	370	212	223	7	460*310*300	14.5	Fig.a
EDS2800 -4T0150										
EDS2800 -4T0185	180	440	260	460	252	261	9	550*350*340	18.5	Fig.a
EDS2800 4T0220										
EDS2800 -4T0300	200	515	300	535	252	261	9	630*380*340	25.5	Fig.a
EDS2800 -4T0370									26	
EDS2800 -4T0450	250	620	370	645	258	267	12	475*750*475	53	Fig.a
EDS2800 -4T0550										
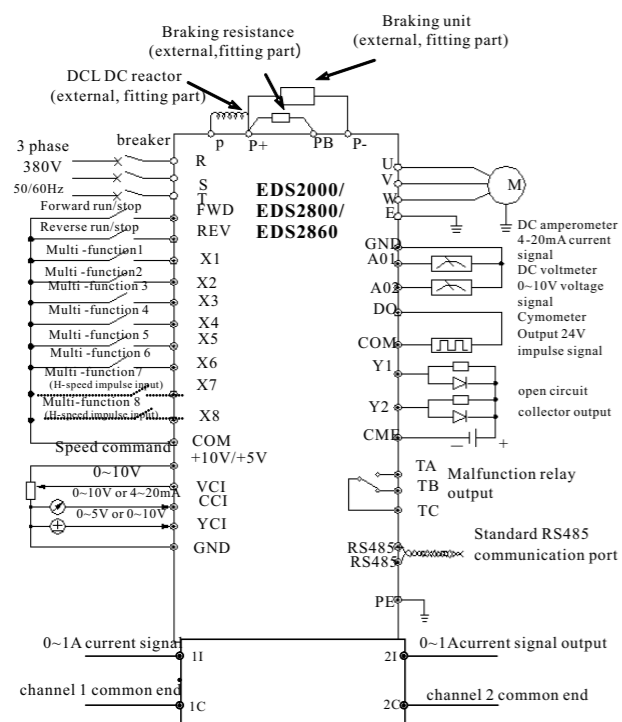
Basic running wiring diagram

Adapted type：EDS2000-4T0750G~EDS2000-4T4500P
EDS2800-4T0110~EDS2800-4T0550

Fig. 3-9 Basic wiring diagram

EN606 series injection molding machine asynchronous servo control cabinet

1、 Takes DSP as the core, flux vector control, speed up time can be 0.1S, high efficiency
2、 Double loop for power source/power save running, automatic reset and power-off reset function ensure production continuity and efficiency
3、 Double channels input, can accept 0~1A (0-10V) signal and pulse signal under 200Hz
4、 Great overload capacity: 150% of rated current for 3 minutes, 200% of rated current for 5 seconds
5、 No high pressure flooding energy loss, power save rate reaches 25%~65%
6、 Temperature of the oil is stable, cooling water can be saved by above 30%
7、 The investment can be returned for about 6-15 months by power save.
Power range: 3phase 380V 7.5KW~75KW

Outer dimension
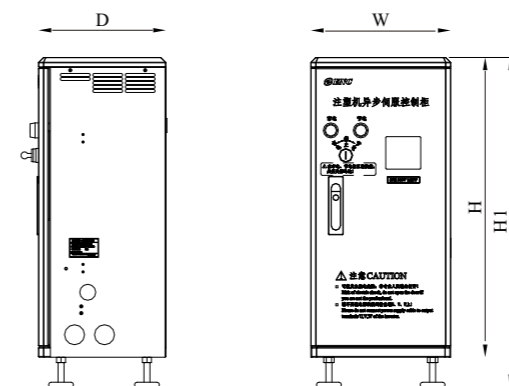
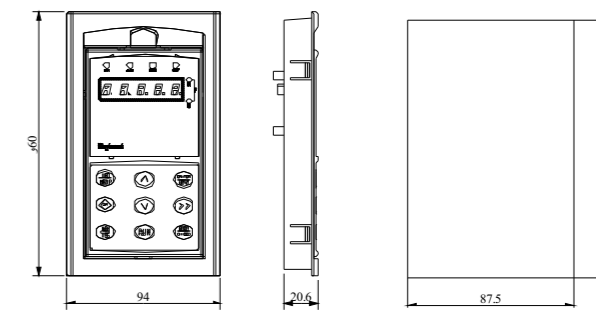## Outer size of keypad and its fixing box(unit：mm)

Fig.e Mounting size of KB25   Fig.f Hole size of KB25 keypad

Outer dimension and gross weight

Inverter type	W (mm)	D (mm)	H (mm)	H1 (mm)	G.W.(kg)
EN606 -4T0075	260	255	570	620	19
EN606 -4T0110					21
EN606 -4T0150	280	255	600	660	23.5
EN606 -4T0185	320	300	675	735	35
EN606 -4T0220					
EN606 -4T0300	360	300	770	830	39
EN606 -4T0370					
EN606 -4T0450	435	345	895	955	65
EN606 -4T0550					
EN606 -4T0750	520	450	1200	1250	153

Main loop input output terminal description

Adaptable type	Main loop terminal		Terminal name	Function description
EN606-4T0075~ EN606-4T0750			R ,S, T	3 phase 380V input terminal
			U, V ,W	3 phase AC output terminal
			E	Shielded earth terminal

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Basic control wiring diagram

Adaptable type: EN606-4T0075-EN606-4T0750
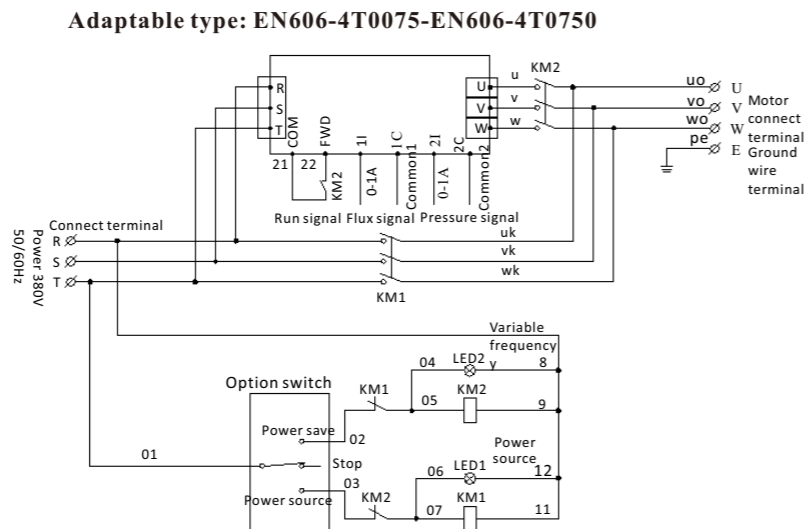
EDS2800 series inverter

Have all the features of EDS2000 series

Full load output at Low-frequency (0.1Hz).

With powerful over load ability--- 150% of rated current 3 minutes, 200% of rated current 5 seconds.

Perfect control function for injection molding machine.

Provide 2-way 0-1A and 2-way 0-10V isolated analog input signal channels

Effective control of the excitation current can control the heating of injection molding machines effectively

Power range:3phase 380V 11KW~75KW

EDS2080 series bypass/variable frequency integrated energy save and control machine

Have all the features of EDS2000 series

Bears automatic voltage regulation (AVR) and automatic current limiting function

Power source/Variable frequency dual-loop operation with automatic reset, power-off reset function

Be able to retain the original loop system

Can add isolating switch, breaker/ fuse, AC input / output reactors,

input / output EMI filters and other accessories according to customers' need.

Can add ammeter, voltmeter, cymometer and etc. according to customers' need.

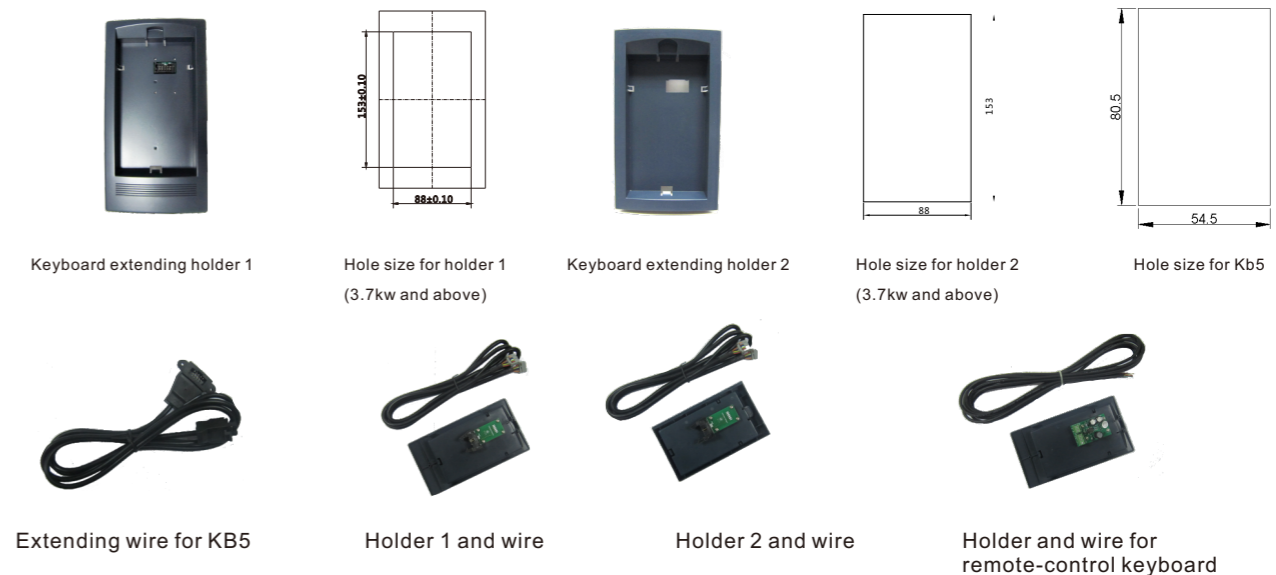Power range:3phase 380V 7.5KW~400KW

Spare parts selection

Keyboard:

EN-KB1 (Local keyboard for EDS2000)

EN-KB3 (Romote-control keyboard for EDS2000)

EN-KB5 (Small local keyboard for EDS800/EDS1000 below 2.2KW (included))

EN-KB6 (Local keyboard for EDS1000 above 3.7kw (included))

EN-KB8(Romote-control keyboard for EDS1000,Modbus protocol)

EN-KB16(Romote-control keyboard for EDS1000,Free protocol)
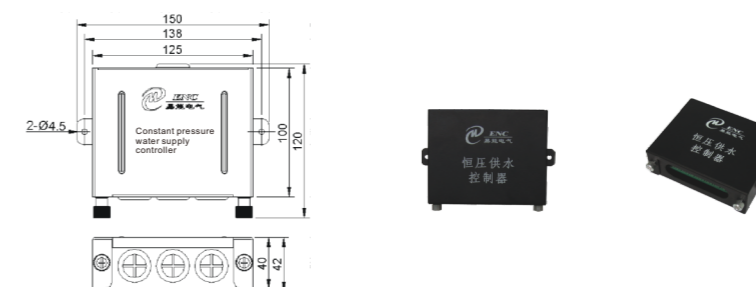
EN-LED1(Local LED keypad for EN500/EN600)

The distance between inverter and EN-KB3 can reach 1000 meters maximally.Our inverters support local keypad and long distance keypad synchronously, no priority, you can operate the inverter through both of them at the same time.

EN-LED1 keypad

EN-KB5 keyboard
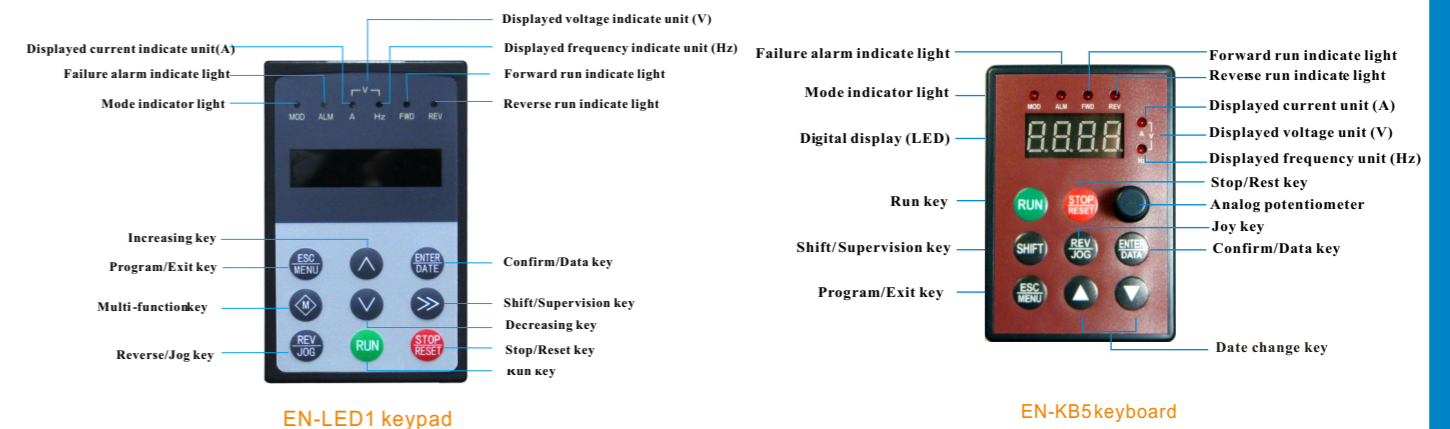
keyboard extending and hole size :

| Keyboard extending holder 1 | Hole size for holder 1 (3.7kw and above) | Keyboard extending holder 2 | Hole size for holder 2 (3.7kw and above) | Hole size for Kb5 |

| Extending wire for KB5 | Holder 1 and wire | Holder 2 and wire | Holder and wire for remote-control keyboard |

Mounting dimension figure for constant pressure water supply controller:

ENC INVERTER

Connection between inverter and fitting parts

(1) Must assemble disjunction device such as isolation switch etc. between power source and the inverter to assure personal safety when repairing the inverter and needing compulsory power off.

(2) Power supply loop must have breaker or fuse with over current protection function to avoid malfunction expanding caused by failure of after device.

(3) AC input reactor

If high-order harmonics between inverter and power supply is biggish which can't fulfil system requirement, or need to improve input side power factor, AC input reactor is needed.

(4) Contactor only be used to power supply control and can't be used to control the start/stop of inverter.

(5) Input side EMI filter

Can use EMI filter to inhibit high-frequency conduction disturbance and emission disturbance from inverter power inverter and fittings parts supply wire.

(6) DC reactor

Built-in DC reactor as standard configuration for EDS2000-4T1600G/4T2000P and type of higher power, put-outside DC reactor as fitting part for type of power lower than EDS2000-4T11600G/EDS2000-4T1600P. To avoid the inverter from affecting by power supply and to protect the inverter and to inhibit high order harmonic, should deploy DC reactor under following situations.

① When there is on-off blind power compensation capacitor or controlled silicon phase control load at the same power supply for the inverter, it's possible to damage input rectifying circuit of the inverter because on/off switching of capacitor may cause sudden change of power network voltage and phase control load cause harmonic and power network wave-form aberration.

② When unbalance degree of 3 phase power supply for the inverter exceeds 3%.

③ When input side power factor of the inverter is required to reach above 0.9.

④ Under normal situation, DC reactor is needed for the inverter when capacitance of power supply is larger than 10 times of inverter capacitance.

(7) Output side EMI filter

Can use EMI filter to inhibit emission disturbance noise and wire leakage current from output side.

(8) AC output reactor

Advise assembling AC output reactor to avoid motor insulation damage, too large over current and inverter frequent protection when connecting wire from inverter to motor exceeds 50m.But voltage drop of AC output reactor must be considered. Improve input output voltage of the inverter or let the motor in lower volume to avoid burning off the motor.

(9) Complete ground wire

Inverter and motor must be earthed and grounding and the resistor should be smaller than 10Ω. Grounding wire should be shorter enough and the diameter bigger enough.

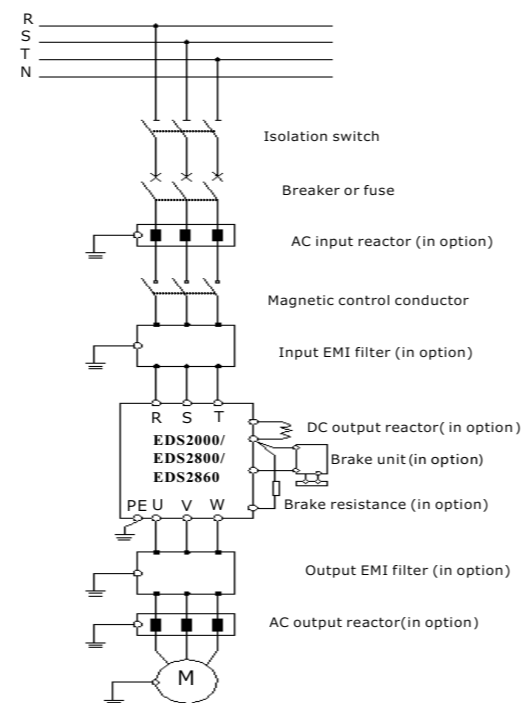Enough means as follows (not smaller than following standard):

7.5KW or below motor：3.5mm² above copper wire

11~15KW motor：8mm² above copper wire

18.5~37KW motor：14mm² above copper wire

45~55KW motor：22mm² above copper wire

75Kw and above motor: 38mm² above copper wire

Using example

Common speed regulation running

Basic wiring diagram（see Fig.1)
Realized function
(1) Realize stepless speed regulation to the motor, use keypad to control start/stop and keypad digital potentiometer to adjust frequency.
(2) Bear failure warning function.
(3) Connect with cymometer,which indicates output frequency of the inverter.
Application field
Used for common speed regulation field,such as：transportation machine, china machine, baccy machine,metallurgy machine etc.
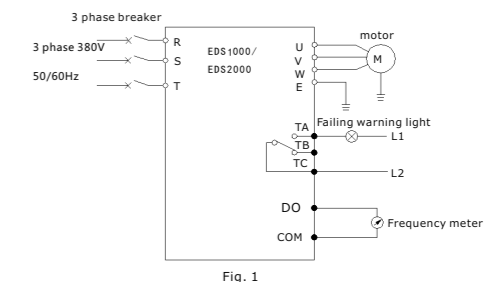

Fig. 1

Terminal control running

Basic wiring diagram（see Fig.2)
Realized function
(1) Control forward run/reverse run of the motor by external on-off quantum.
(2) Control speed of the motor by 0~10V signal.
(3) Bear failure warning and output current indication function.
Application field
Used in field where need long-distance control to start/stop of the motor such as blower, food, chemical machine, packing machine, transportation machine etc.
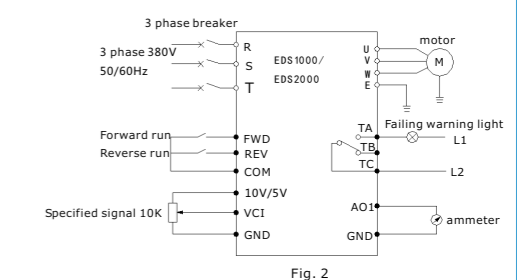

Fig. 2

Multi-step speed control running

Basic wiring diagram（see Fig.3)
Realized function
(1) Make use of external on-off quantum signal to control start/stop of the motor.
(2) Make use of external on-off quantum signal to make the motor run at set frequency.
(3) Bear free shutdown and reset function by utilizing external on-off quantum signal.
(4) Bear warning alarm and PLC run indication function.
Application field：
Applied in field where need frequent multi-speed adjustment to motor speed such as toughened glass, weaving, paper making, chemical etc..
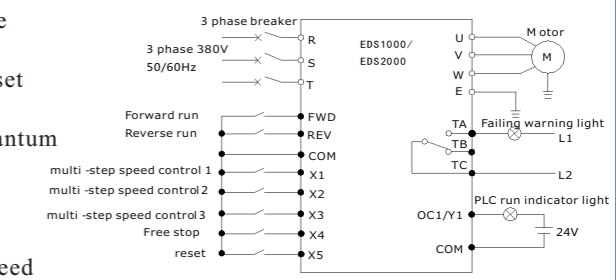

Fig. 3

Closed-loop control system

Basic wiring diagram（see Fig.4)
Realized function
(1) The inverter can adjust output automatically according to feedback signal to make constant voltage, constant temperature, constant current etc. available.
(2) Can control start/stop of the motor from long distance.
(3) Bear failure alarm and current indicator function.
Application field:
Applied in field where need stable system, pressure, flux such as blower pump, constant pressure water supply, air compressor, air conditioner, freezer cooling tower, music fountain, heat supply etc..
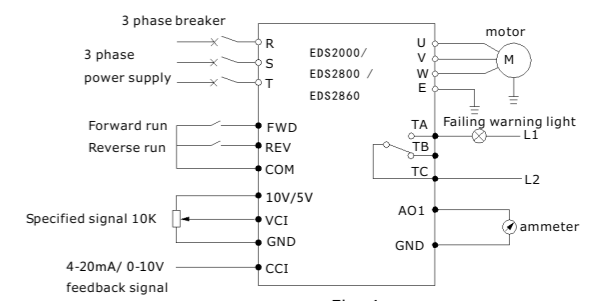

Fig. 4

ENCOM is national outstanding brand. Honor: National Innovation Fund,Shenzhen Hi-tech R&D Subsidies Shenzhen Software Association Member China Merchants Technology Group Member Seven automatic production lines Porduction capacity is 2,6000 pieces/month

Using example

Consecutive action running

Basic wiring diagram（see Fig.5）

Realized function

After receive forward run command from external switch(closed) and frequency specified value(0~10V) from analog input terminal YCI, 1#inverter run at this frequency value. At the same time, already running state of 1# inverter，make 2# inverter get forward run command through serial communication, here, run frequency value of 1# inverter is passed to 2# inverter through serial communication.

Application field

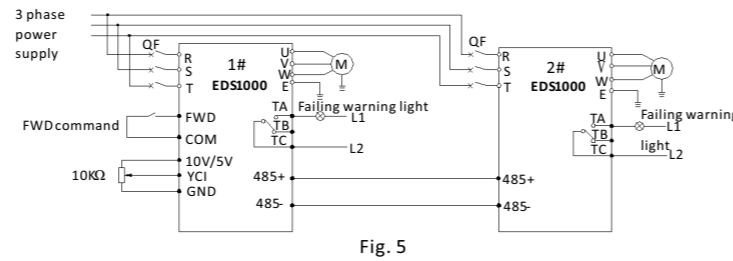Applied in field such as conveyer belt, coiler, factory production line, food chemistry etc.

Fig. 5

Energy save engineering for injection molding machine

Basic wiring diagram（see Fig.6）

Realized function

(1) Control forward run of the motor by start-up button.

(2) Control speed of the motor by using current signal acquired by injection molding machine.

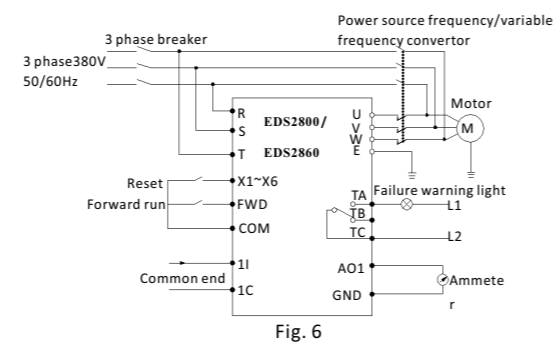(3) Bear failure warning output function.

Fig. 6

The application for drawing machine

Basic wiring diagram（see Fig.7）

The pull-in current of intermediate relay KA6, KA8 should be less than 50mA; otherwise please use an external power supply.

Realized function

Constitute an independent dual-frequency digital PID control systems, keep the work of wire drawing machine in a way of smooth start-up, run a smooth, constant tension and to start/ stop at any time.

Application field

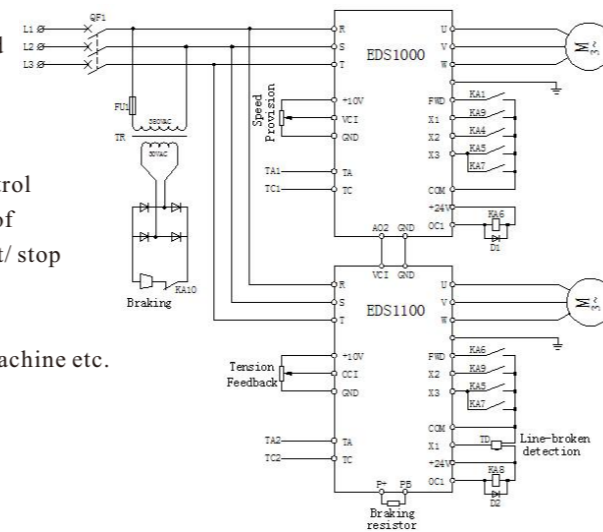Wire drawing machine, automatic wire & cable winding machine etc.

Fig. 7

ENCOM has passed ISO9001:2008 quality control system approval
CE certification:EDS800N,EDS1000,EDS2000,EN606, EN500,EN600,Servo
7000㎡ brand-new manufacture base
Advanced test instruments, whole unit inspecting before and after ageing test
We promise ENC® INVERTER is no defect before shipment

Use case	Project Description	The use of inverter	
		Power	quantity
Liaoning Publishing Shenyang Book Distribution Center	Central air -conditioning networking control system	22KW	24
Jiangsu Weida Chemical Fiber Group	Chemical fiber equipment system	7.5~132KW	260
Zhejiang Jiantai Optical Instrument Factory	Energy -saving control of injection molding machine	15KW	18
Guangdong Shuang Xin Cement Plant	Large -scale energy -saving cement plant fan	15~315KW	20
Guangdong Bai Yun Cement Plant	Large -scale energy -saving cement plant fan	220KW	1
Jiang Xi Bao Ma/Si Chuan Jin Chuan Cement Plant	Large -scale fan energy -saving cement plant	200KW	1
Yantai Foxconn DT Molding Plant	Energy Saving of Injection Molding Machine	15~45KW	103
Qing Dao LangDi Group	Energy Saving of Injection Molding Machine	15~55KW	26
Shengli Oilfield	Shengli oil field water injection pump frequency transformation	200~315KW	9
Linyi Zhen -yi Thermal power plant	Fans Energy-saving in power plant	132~280KW	3
Shenyang, Heping District Heating Company	Variable frequency transformation in heating	75~250KW	10
Tai Jie cleaning washing machine Equipment Co., Ltd.	Dry Cleaning Machine Series	1.5KW	500
Jiangsu Huan Yu Machinery Equipment Co., Ltd	Dehydration Machine Series	7.5~15KW	8
Zhejiang Aviation Equipment Factory	CNC machine tools	1.5KW	60
Guangdong Zhang Yu Plastic Factory	Boot disk drive energy-saving system	18.5~22KW	82
Da Qing Oilfield	Pumps	315KW	3