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Chapter 0 Preface

0.1 Preface

To extend the performance of the product and ensure personnel safety, please read this manual thoroughly before using the inverter. Should there be any problem in using the product that cannot be solved with the information provided in the manual, contact Our's technical or sales representative who will be willing to help you.

※Precautions

The inverter is an electrical product. For your safety, there are symbols such as "Danger", "Caution" in this manual as a reminder to pay attention to safety instructions on handling, installing, operating, and checking the inverter. Be sure to follow the instructions for highest safety.

Danger	Indicates a potential hazard that could cause death or serious personal injury if misused.
Caution	Indicates that the inverter or the mechanical system might be damaged if misused.

Danger

- Risk of electric shock. The DC link capacitors remain charged for five minutes after power has been removed. It is not permissible to open the equipment until 5 minutes after the power has been removed.
- Do not make any connections when the inverter is powered on. Do not check parts and signals on circuit boards during the inverter operation.
- Do not disassemble the inverter or modify any internal wires, circuits, or parts.
- Ensure that the Inveter Ground terminal is connected correctly.

Caution

- Do not perform a voltage test on parts inside the inverter. High voltage can destroy the semiconductor components.
- Do not connect T1, T2, and T3 terminals of the inverter to any AC input power supply.
- CMOS ICs on the inverter's main board are susceptible to static electricity. Do not touch the main circuit board.

1.1 Before Power Up

Danger

- Make sure the main circuit connections are correct Single phase L1(L),L3(N), Three phase L1(L),L2,L3(N) are power-input terminals and must not be mistaken for T1,T2 and T3. Otherwise, inverter damage can result.

Caution

- The line voltage applied must comply with the inverter's specified input voltage.(See the nameplate)
- To avoid the front cover from disengaging, or other damge do not carry the inverter by its covers. Support the drive by the heat sink when transporting. Improper handling can damage the inverter or injure personnel and should be avoided.
- To avoid the risk of fire, do not install the inverter on a flammable object.Install on nonflammable objects such as metal.
- This product provides the 24V for internal use only, do not use as the power supply sources for other external components, such as sensors, electronic components ... etc., otherwise it will cause adverse situation.
- When disconnecting the remote keypad, turn the power off first to avoid any damage to the keypad or the inverter.

Caution

- This product is sold subject to EN 61800-3 and EN 61800-5-1.
  In a domestic environment this product may cause radio interference in which case the user may be required to apply corrective measures.

Caution

- Work on the device/system by unqualified personnel or failure to comply with warnings can result in severe personal injury or serious damage to material. Only suitably qualified personnel trained in the setup, installation, commissioning and operation of the product should carry out work on the device/system.
- Only permanently-wired input power connections are allowed.

1.2 During Power Up

Danger

- When the momentary power loss is longer than 2 seconds, the inverter will not have sufficient stored power for its control circuit. Therefore, when the power is re-applied, the run operation of the inverter will be based on the setup of following parameters:

  - Run parameters. 00-02 or 00-03.
  - Direct run on power up. Parameter. 07-04 and the status of external run switch,

  Note-: the start operation will be regardless of the settings for parameters 07-00/07-01/07-02.

  Danger. Direct run on power up.

  If direct run on power up is enabled and inverter is set to external run with the run FWD/REV switch closed then the inverter will restart.

  Danger

  Prior to use, ensure that all risks and safety implications are considered.

- When the momentary power loss ride through is selected and the power loss is short, the inverter will have sufficient stored power for its control circuits to function, therefore,when the power is resumed the inverter will automatically restart depending on the setup of parameters 07-00 & &- 7-01.

1.3 Before Operation

Caution

- Make sure the inverter model and rating are the same as that set in parameter 13-00.

Note :On power up the supply voltage set in parameter 01-01 will flash on the display for 2 seconds.

1.4 During Operation

Danger

- Do not connect or disconnect the motor during operation. Otherwise, It may cause the inverter to trip or damage the unit.

Danger

- To avoid electric shock, do not take the front cover off while power is on.
- The motor will restart automatically after stop when auto-restart function is enabled. In this case, care must be taken while working around the drive and associated equipment .
- The operation of the stop switch is different than that of the emergency stop switch. The stop switch has to be activated to be effective. Emergency stop has to be de-activated to become effective.

Caution

- Do not touch heat radiating components such as heat sinks and brake resistors.
- The inverter can drive the motor from low speed to high speed. Verify the allowable speed ranges of the motor and the associated machinery.
- Risk of electric shock. The DC link capacitors remain charged for five minutes after power has been removed. It is not permissible to open the equipment until 5 minutes after the power has been removed.

Caution

- The Inverter should be used in environments with temperature range from (14-104°F) or (-10 to 50°C) and relative humidity of 95%.

Danger

- Make sure that the power is switched off before disassembling or checking any components.

1.5 Inverter Disposal

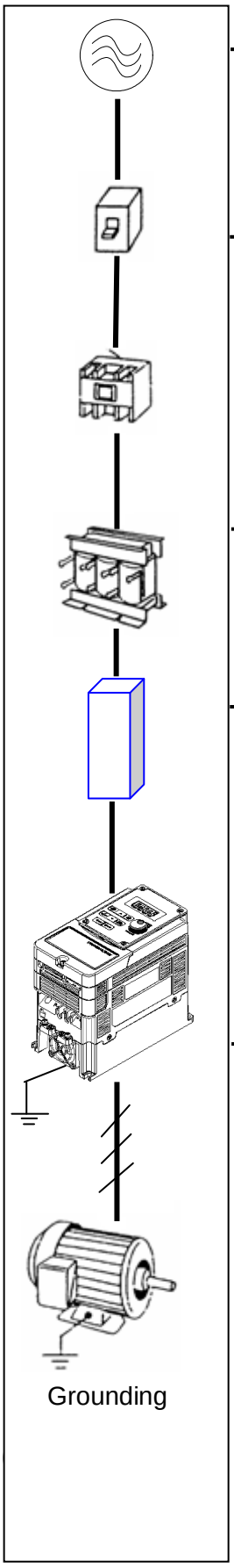
Caution

Please dispose of this unit with care as an industrial waste and according to your required local regulations.

- The capacitors of inverter main circuit and printed circuit board are considered as hazardous waste and must not be burnt.
- The plastic enclosure and parts of the inverter such as the cover board will release harmful gases if burnt.

Chapter 2 Environment & Installation

2.1 Considerations for peripheral equipment



Power	Ensure that the supply voltage is correct. A molded-case circuit breaker or fused disconnect must be installed between the AC source and the inverter
Circuit Breaker & RCD	Use a molded-case circuit breaker that conforms to the rated voltage and current of the inverter. Do not use the circuit breaker as the run/stop switch for the inverter. Residual Current Circuit Breaker(RCD) Current setting should be 200mA or above and the operating time at 0.1 second or longer to prevent malfunctions.
Magnetic contactor	Normally a magnetic contactor is not needed. A contactor can be used to perform functions such as external control and auto restart after power failure. Do not use the magnetic contactor as the run/stop switch of the inverter.
AC reactor for power quality improvement	When a 200V/400V inverter with rating below 15KW is connected to a high capacity power source (600KVA or above) then an AC reactor can be connected for power factor improvement and reducing harmonics.
Input noise filter	FID-E2 inverter has a built-in filter to Class “A” first Environment. (CategoryC2) To satisfy the required EMC regulations for your specific application you may require an additional EMC filter.
Inverter	Connect the single phase power to Terminals, L1(L) & L3(N). Warning! Connecting the input terminals T1, T2, and T3 to AC input power will damage the inverter. Output terminals T1, T2, and T3 are connected to U, V, and W terminals of the motor. To reverse the motor rotation direction just swap any two wires at terminals T1, T2, and T3. Ground the Inverter and motor correctly. Ground Resistance for 200V power<100 Ohms. Ground Resistance for 400V power<10 Ohms
Motor	Three-phase induction motor. Voltage drop on motor due to long cable can be calculated. Volts drop should be < 10%. Phase-to-phase voltage drop (V) = $\sqrt{3}$ ×resistance of wire (Ω/km)×length of line(m)×current×$\mathbf{10^{-3}}$

2.2 Specifications

2.2.1 Product Specifications

200V Class:Single phase

Model: FID-E2-□□□- 21F	004	007	015	022
Horse power (HP)	0.5	1	2	3
Suitable motor capacity (KW)	0.4	0.75	1.5	2.2
Rated output current (A)	3.1	4.5	7.5	10.5
Rated capacity (KVA)	1.2	1.7	2.90	4.00
Input voltage range(V)	Single Phase:200~240V,50/60HZ			
Allowable voltage fluctuation	+10%-15%			
Output voltage range(V)	Three phase: 0~240V			
Input current (A)*	8.5	12	16	23.9
Inverter net weight (KG)	1.6	1.6	2.5	2.5
Allowable momentary power loss time (S)	2.0	2.0	2.0	2.0
Enclosure	IP20			
Frame Size	1		2	

200V Class:Single/Three phase

Model: FID-E2-□□□- 2A	004	007	015	022
Horse power (HP)	0.5	1	2	3
Suitable motor capacity (KW)	0.4	0.75	1.5	2.2
Rated output current (A)	3.1	4.5	7.5	10.5
Rated capacity (KVA)	1.2	1.7	2.90	4.00
Input voltage range(V)	Single/Three Phase:200~240V, 50/60HZ			
Allowable voltage fluctuation	+10%-15%			
Output voltage range(V)	Three phase: 0～240V			
Input current (A)*	8.5/4.5	12/6.5	16/11	23.9/12.5
Inverter net weight (KG)	1.6	1.6	2.5	2.5
Allowable momentary power loss time (S)	2.0	2.0	2.0	2.0
Enclosure	IP20			
Frame Size	1		2	

*The input current is calculated value at full rated output current.

400VClass:Three phase

Model: FID-E2-□□□- 43(F)	007	015	022	037
Horse power (HP)	1	2	3	5
Suitable motor capacity (KW)	0.75	1.5	2.2	3.7
Rated output current (A)	2.3	3.8	5.2	8.8
Rated capacity (KVA)	1.7	2.9	4.0	6.7
Input voltage range(V)	Three phase:380~480V,50/60HZ			
Allowable voltage fluctuation	+10%-15%			
Output voltage range(V)	Three phase:0～480V			
Input current (A)*	4.2	5.6	7.3	11.6
Inverter net weight (KG)	1.7	1.7	2.5	2.5
Allowable momentary power loss time (S)	2.0	2.0	2.0	2.0
Enclosure	IP20			
Frame Size	1		2	

Model: FID-E2-□□□- 43(F)	055	075	110	150	185
Horse power (HP)	7.5	10	15	20	25
Suitable motor capacity (KW)	5.5	7.5	11	15	18.5
Rated output current (A)	13.0	17.5	24	32	40
Rated capacity (KVA)	9.9	13.3	19.1	27.4	34
Input voltage range(V)	Three phase:380~480V,50/60HZ				
Allowable voltage fluctuation	+10%-15%				
Output voltage range(V)	Three phase: 0~480V				
Input current (A)*	17	23	31	38	48
Inverter net weight (KG)	6.7	6.7	6.7	13.7	13.7
Allowable momentary power loss time (S)	2.0	2.0	2.0	2.0	2.0
Enclosure	IP20				
Frame Size	3		4		

*The input current is calculated value at full rated output current.

2.2.2 General Specifications

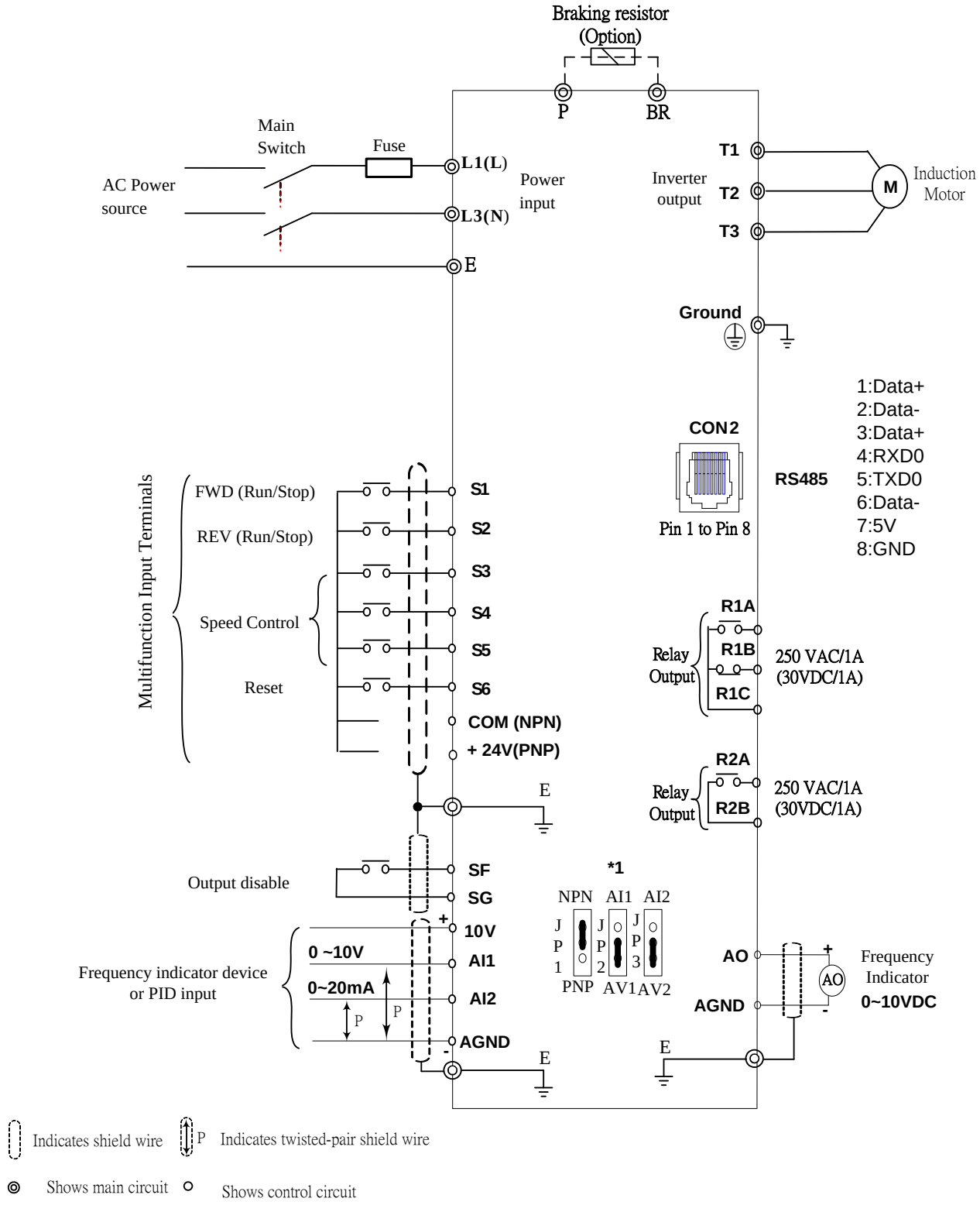
Item		FID-E2
Control Mode		V/F Control, Vector Control
Frequency	Output Frequency	0.01~650.00Hz
	Starting Torque	150%/1Hz(Vector)
	Speed Control Range	1:50
	Setting resolution	Digital input: 0.01Hz
		Analog input:0.06Hz/60Hz
	Setting	Keypad:Set directly with▲▼ keys or the VR on the keypad
		External Input Terminlas: AI1(0/2~10V), AI2(0/4～20mA)input Multifunction input up/down function(Group3)
		Setting frequency by communication method.
	Frequency limit	Lower and upper frequency limits 3 skip frequency settings.
Run	Operation set	Keypad run, stop button
		External terminals: Multi- operation-mode2 / 3 wire selection Jog operation
		Run signal by communication method.
Main Control Features	V / F curve setting	18 fixed curves and one customized curve
	Carrier frequency	1～16KHz
	Acceleration and deceleration control	2 off Acc / dec time parameters. 4 off S curve parameters.
	Multifunction input	29 functions (refer to description on group3)
	Multifunction output	21 functions (refer to description on group3)
	Multifunction analog output	5 functions (refer to description on group4)
	Main features	Overload Detection,16 preset speeds,Auto-run,Acc/Dec Switch (2 Stages),Main/Alt run Command select,Main/Alt Frequency Command select,PID control, torque boost, V/F start Frequency, Fault reset, Firemode.
Display	LED	Display :parameter / parameter value / frequency / line speed / DC voltage / output voltage / output current / PID feedback / input and output terminal status / Heat sink temperature / Program Version / Fault Log.
	LED Status Indicator	Run / Stop / Forward / Reverse ,and etc.
Protective Functions	Overload Protection	The relays to protect the motor and the inverter. (150%/1min)
	Over voltage	·220V: >410V ,380V: >820V
	Under Voltage	·220V: <190V , 380V: <380V
	Momentary Power Loss Restart	Inverter auto-restart after a momentary power loss.
	Stall Prevention	Stall prevention for Acceleration/ Deceleration/ Operation.
	Short-circuit output terminal	Electronic Circuit Protection
	Grounding Fault	Electronic Circuit Protection
	Other protection features	Protection for overheating of heat sink,The carrier frequency decreasing with the temperature function,fault output,reverse prohibit,prohibit for

		direct start after power up and error recovery ,parameter lock up
	All frames include brake transistor	
Communication control		Standard built-in RS485 communication (Modbus), One to one or One to many control.
Environment	Operating temperature	-10~50℃ (Note1)
	Storage temperature	-20~60℃
	Humidity	95% RH or less (no condensation) (Compliance with IEC 60068 - 2-78)
	Shock	20Hz or less 1G(9.8m/s²)20～50Hz 0.6G(5.88m/s²) (Compliance with IEC 60068 - 2-6)
	Protection class	IP20

Note1: –10 ~ 50℃ Installed inside a control panel (without dustproof cover),
–10 ~ 40℃ Wall mounted (with dustproof cover).

2.3 Standard wiring

2.3.1 Single Phase:

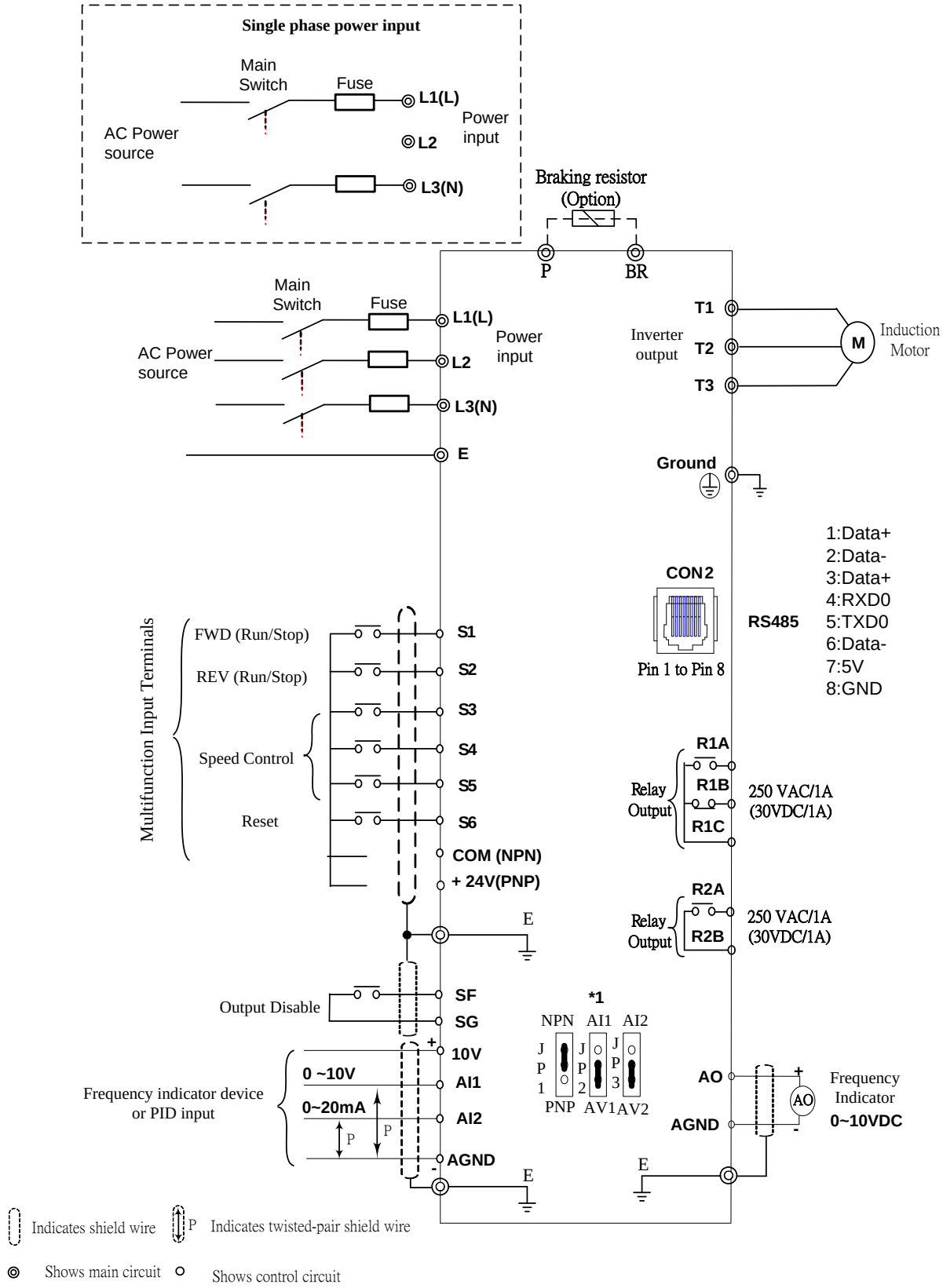


*1: JP1:NPN/PNP selection, JP2:AI1 0~10V/0~20mA selection, JP3:AI2 0~10V/0~20mA selection

Model:

200V: FID-E2-004-21F/ FID-E2-007-21F/ FID-E2-015-21F / FID-E2-022-21F

2.3.2 Single/Three Phase

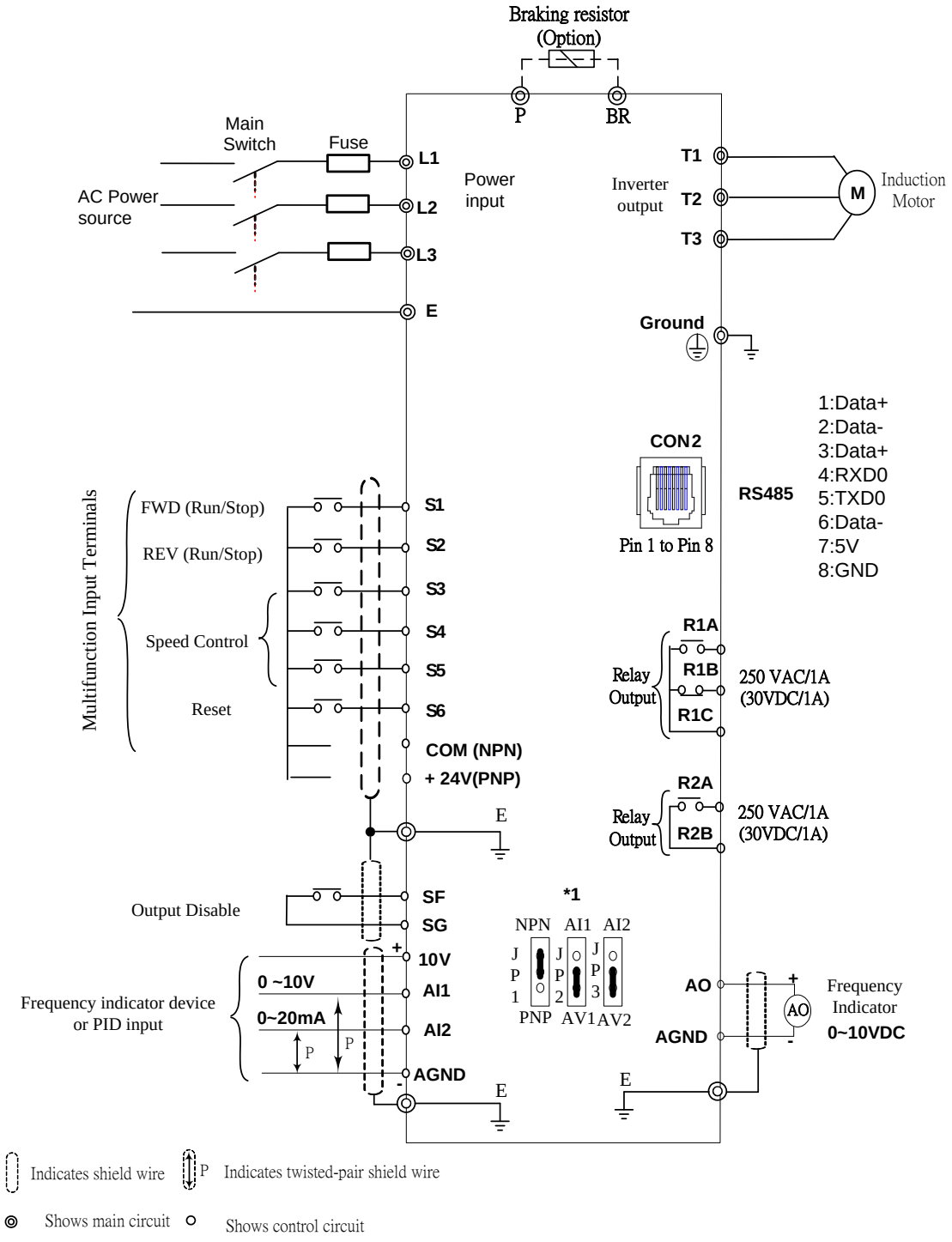


*1: JP1:NPN/PNP selection, JP2:AI1 0~10V/0~20mA selection, JP3:AI2 0~10V/0~20mA selection

Model:

200V: FID-E2-004-2A/ FID-E2-007-2A/ FID-E2-015-2A / FID-E2-022-2A

2.3.3 Three phase



*1: JP1:NPN/PNP selection, JP2:AI1 0~10V/0~20mA selection, JP3:AI2 0~10V/0~20mA selection

Model:

400V: FID-E2-007-43(F)/ FID-E2-015-43(F)/ FID-E2-022-43(F)/ FID-E2-037-43(F)/ FID-E2-055-43(F)/ FID-E2-075-43(F)/ FID-E2-110-43(F)/FID-E2-150-43(F)/ FID-E2-185-43(F)

2.4 Terminal Description

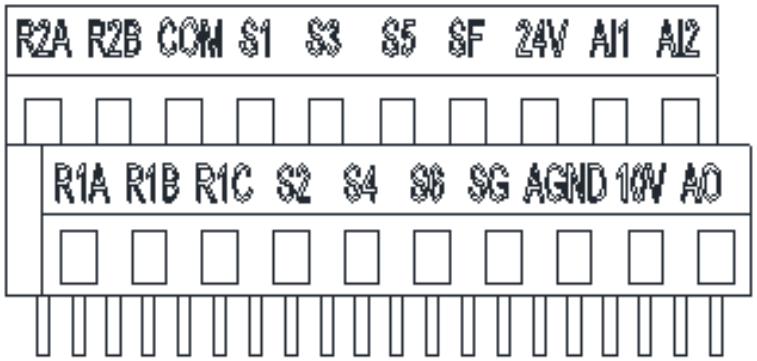
2.4.1 Description of main circuit terminals

Terminal symbols	TM1 Function Description
L1(L)	Main power input:single phase: L1(L)/L3(N) single/three phase:L1(L)/L2/L3(N) three phase:L1/L2/L3
L2	
L3(N)	
T1	Inverter output, connect to U/V/W terminals of motor
T2	
T3	
P	Braking resistor connection terminal: Used in applications when it is required to stop a high inertia load rapidly. (refer to specifications of the braking resistor)
BR	
⏚	Ground terminal

2.4.2 Control circuit terminal description

Type	Terminal	Terminal function		Signal level
Digital input signal	S1	Forward─Stop (Preset), Multi function input terminal		24 VDC, 8 mA, Optical coupling isolation(Max,voltage30 Vdc, Input impedance 3.3kΩ)
	S2	Reverse─Stop (Preset), Multi function input terminal		
	S3	Preset Speed0(5-02),Multi function input terminal		
	S4	Preset Speed1(5-03), Multi function input terminal		
	S5	Preset Speed2(5-05), Multi function input terminal		
	S6	Fault reset input, Multi function input terminal		
Relay output	R1A	NO(Normally open)	Multi function output:Run,Fault,setting Frequency ,Frequency Reached,Auto Restart,Momentary AC Power Loss,Rapid Stop ,Base Block Stop Mode,Motor Overload Protection,Drive Overload Protection,Over-torque Threshold Level、Preset Current level Reached、Preset Brake Frequency Reached,PID Feedback Signal Loss,Final count value reached, Initial count value recahed,PLC Status Indicator ,PLC control…	250VAC/1A(30VDC/1A)
	R1B	NC(Normally closed)		
	R1C	COMMON		
	R2A			
	R2B			
24VPower supply	COM	Digital signal common terminal (JP1 Switching NPN position)		±15%,Max output current 60mA
	24V	Digital signal common terminal (JP1 Switching PNP position)		
The analog input signal	10V	Built in Power for an external speed potentiometer		10V(Max current:2mA)
	AI1	Multifunctional analog input available JP2 switching voltage or current input Voltage:JP2 Switching AV1 position Current:JP2 Switching AI1 position		0 ~ 10V,(Max current:2mA) (Input impedance: 153KΩ)
	AI2	Multifunctional analog input available JP3 switching voltage or current input Voltage:JP3 cut to AV2 position Current:JP3 cut to AI2 position		0 ~ 10V,0 ~20mA (Input impedance: 153KΩ)
	AGND	The analog common terminal		----
	⏚	Shielding wire connecting terminal (The earth)		----
The analog onput signal	AO	Multifunctional analog output terminal*3		0 ~10V,(Max current:2mA)
	AGND	The analog common terminal		----
Safety switch	SF	Terminal SF is for output disable		
	SG			

Control circuit terminal:



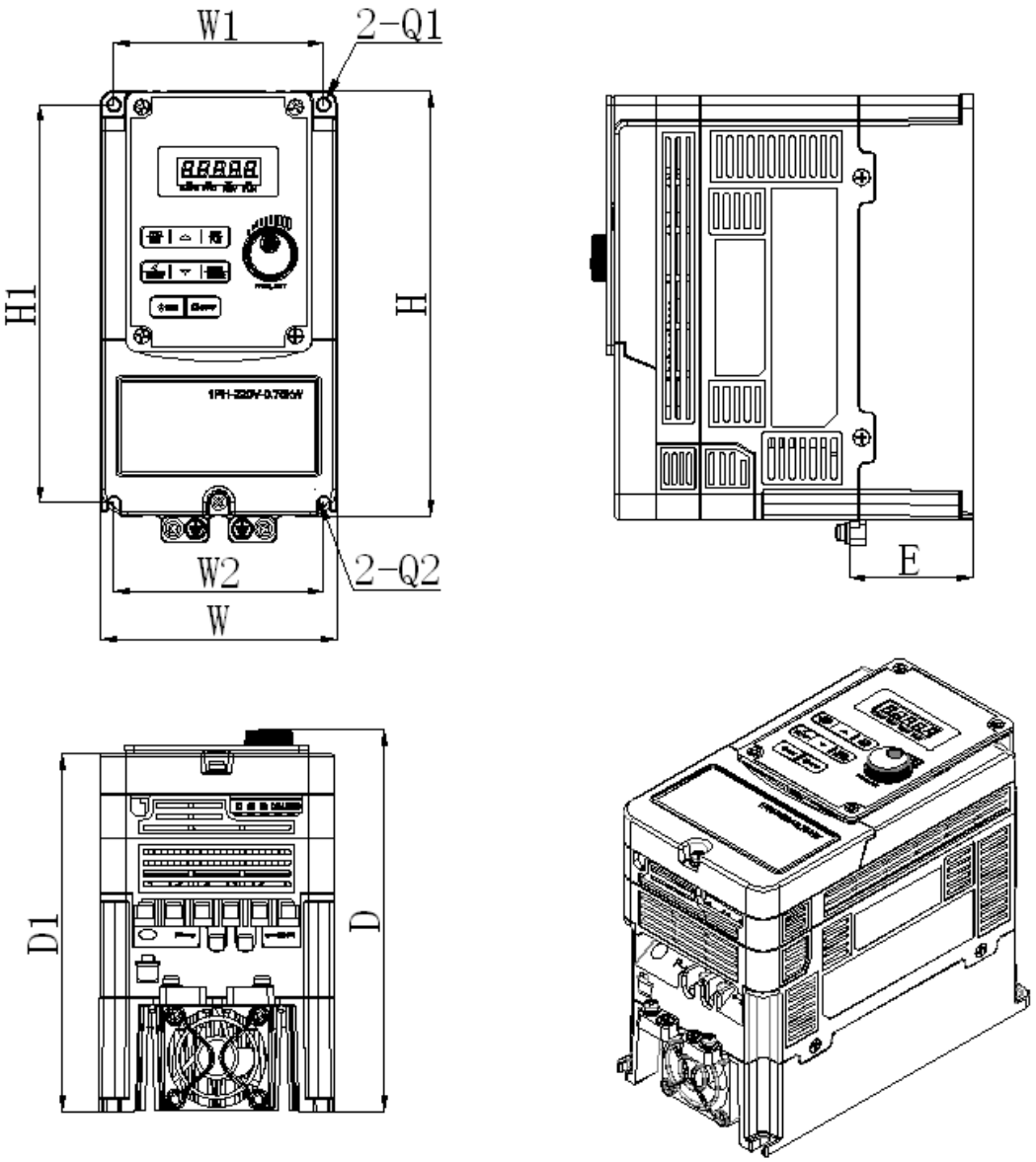
2.5 Outline Dimensions mm(inch)

Tolerance Table				
1 ~ 10 ± 0.1 (0.04~0.40 ± 0.004)	10 ~ 50 ± 0.2 (0.40~1.97 ± 0.01)	50 ~ 100 ± 0.3 (1.97~4 ± 0.01)	100 ~ 200 ± 0.5 (4~7.87 ± 0.02)	200 ~ 400 ± 0.8 (7.87~15.75 ± 0.03)

Frame1

Single/Three phase：200V 0.5~1HP ; Single phase：200V 0.5~1HP

Three phase： 400V 1~2HP



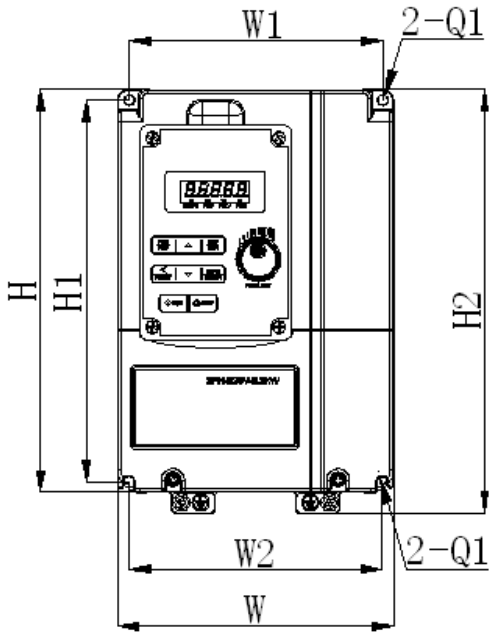
Unit：mm(inch)

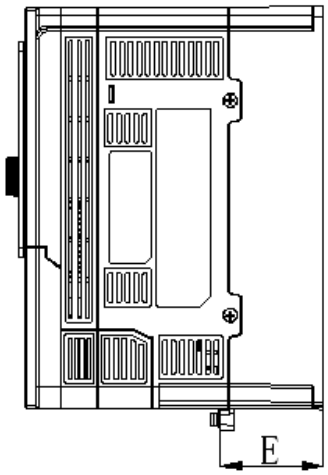
Model	Dimensions										N.W (Kg)
	W	W1	W2	H	H1	D	D1	E	Q1	Q2	
FID-E2-004-2A	90.6 (3.57)	81 (3.19)	81 (3.19)	163.6 (6.44)	153 (6.02)	149 (5.87)	141 (5.55)	48 (1.89)	4.3 (0.17)	4.3 (0.17)	1.6
FID-E2-007-2A											1.6
FID-E2-004-21F											1.7
FID-E2-007-21F											1.7
FID-E2-007-43											1.7
FID-E2-015-43											1.7
FID-E2-007-43F											1.7
FID-E2-015-43F											1.7

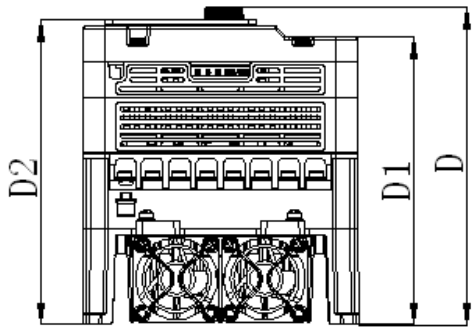
Frame2

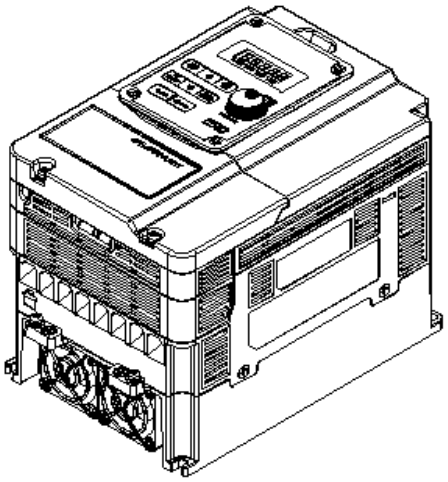
Single/Three phase：200V 2~3HP ; Single phase：200V 2~3HP

Three phase： 400V 3~5HP







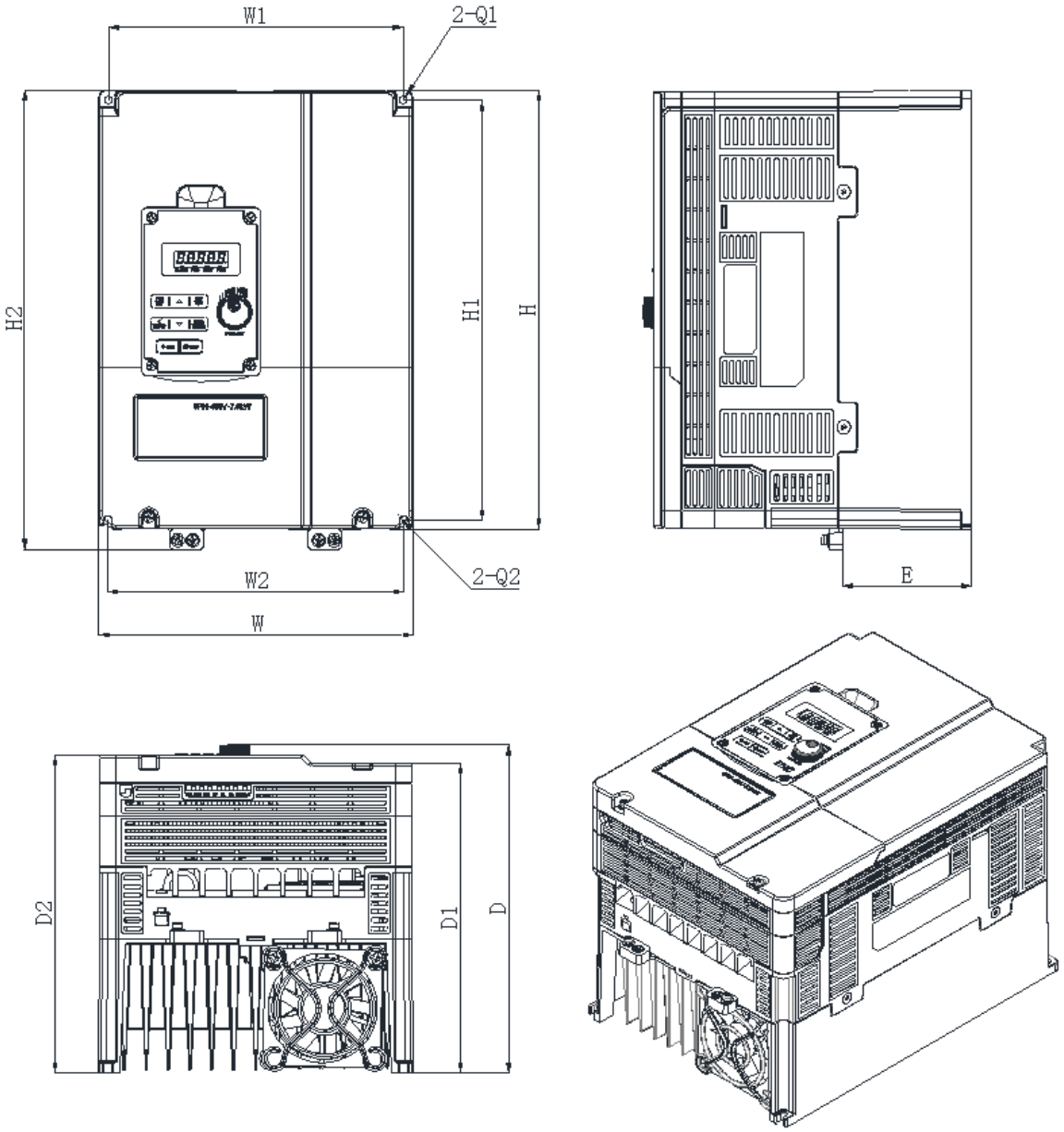


Unit：mm(inch)

Model	Dimensions												N.W (Kg)
	W	W1	W2	H	H1	H2	D	D1	D2	E	Q1	Q2	
FID-E2-015-2A	128.7 (5.07)	118 (4.65)	118 (4.65)	187.6 (7.39)	177.6 (6.99)	197.5 (7.78)	149 (5.87)	133.8 (5.27)	141.8 (5.58)	48.2 (1.9)	4.5 (0.18)	4.5 (0.18)	2.5
FID-E2-022-2A													2.5
FID-E2-015-21F													2.5
FID-E2-022-21F													2.5
FID-E2-022-43													2.5
FID-E2-037-43													2.5
FID-E2-022-43F													2.5
FID-E2-037-43F													2.5

Frame3

Three phase： 400V 7.5~15HP

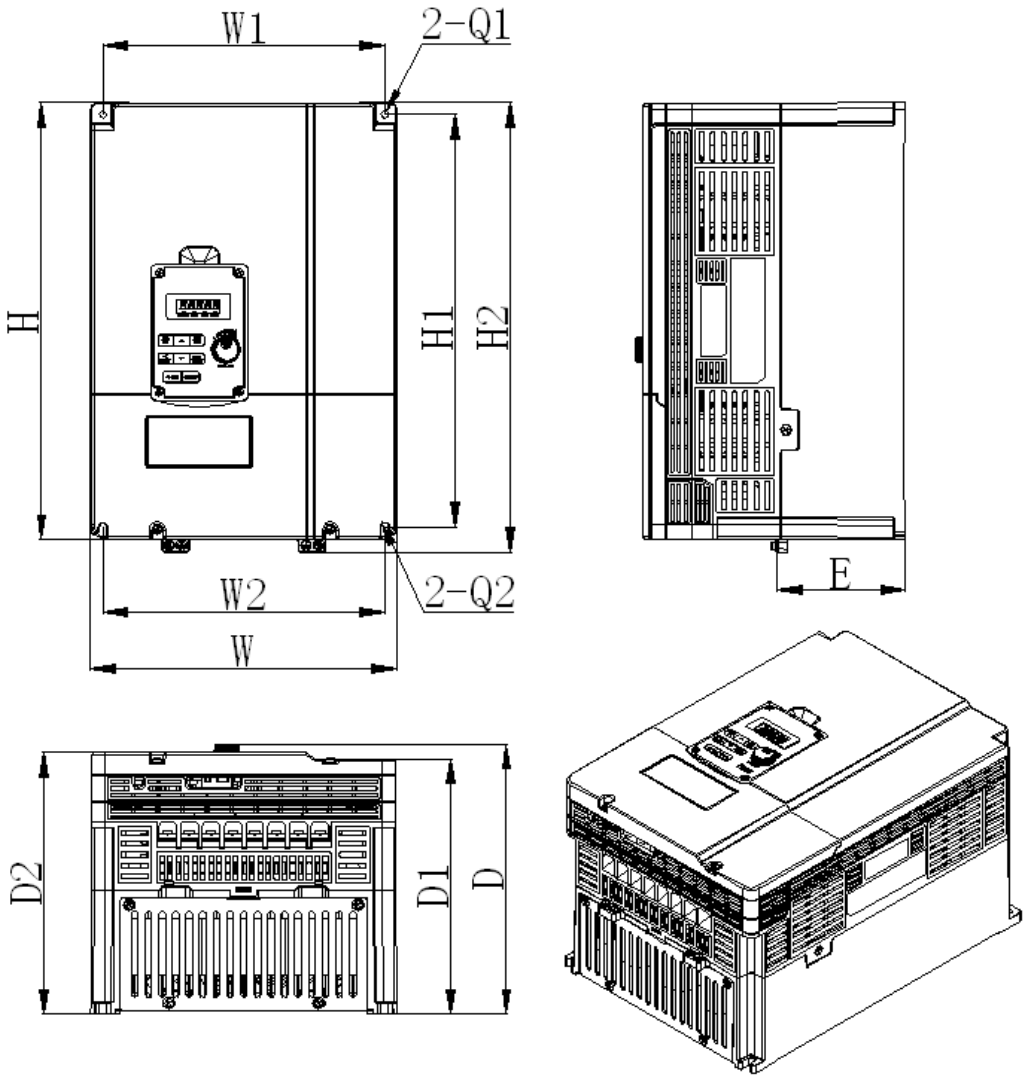


Unit：mm(inch)

Model	Dimensions												N.W (Kg)
	W	W1	W2	H	H1	H2	D	D1	D2	E	Q1	Q2	
FID-E2-055-43	186.9 (7.36)	176 (6.92)	175 (6.89)	260.9 (10.27)	249.8 (9.83)	273 (10.75)	197 (7.76)	184 (7.24)	189 (7.44)	84.7 (3.33)	4.5 (0.18)	4.5 (0.18)	6.5
FID-E2-075-43													6.5
FID-E2-110-43													6.5
FID-E2-055-43F													6.7
FID-E2-075-43F													6.7
FID-E2-110-43F													6.7

Frame4

Three phase： 400V 20~25HP

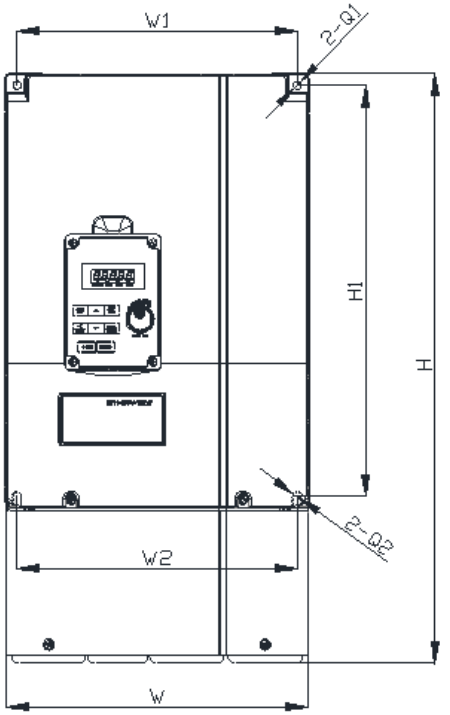


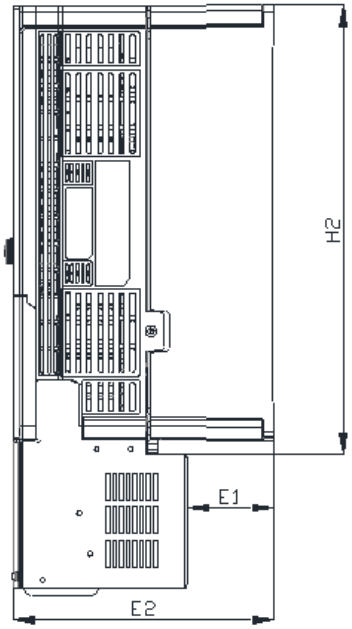
Unit：mm(inch)

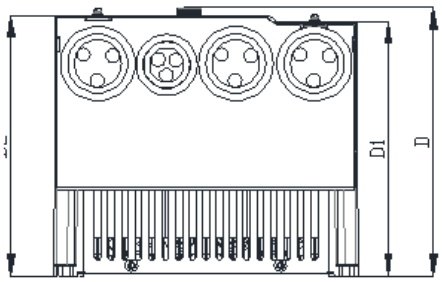
Model	Dimensions												N.W (Kg)
	W	W1	W2	H	H1	H2	D	D1	D2	E	Q1	Q2	
FID-E2-150-43	224.6 (8.84)	207 (8.15)	207 (8.15)	321.6 (12.66)	303.5 (11.95)	330.9 (13.03)	200.5 (7.9)	187.5 (7.38)	192.5 (7.58)	94 (3.7)	4.5 (0.18)	4.5 (0.18)	10.5
FID-E2-185-43													10.5

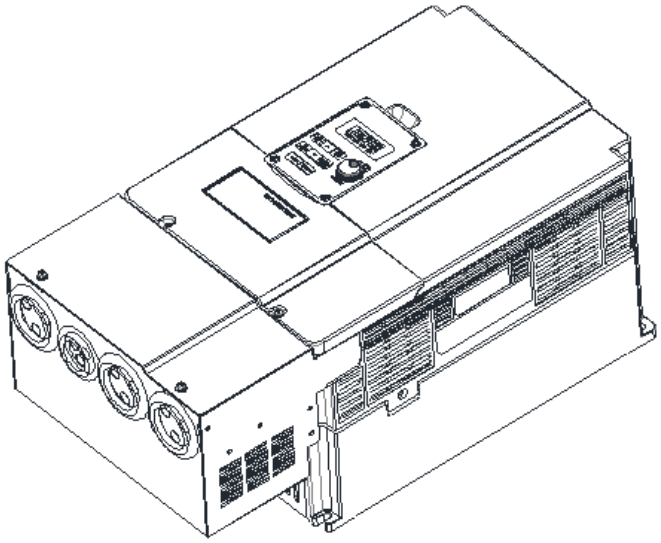
Frame4 (With Filter)

Three phase：400V 20~25HP









D2

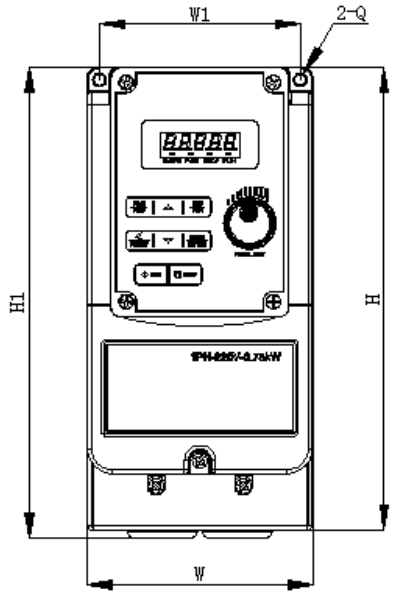
Unit：mm(inch)

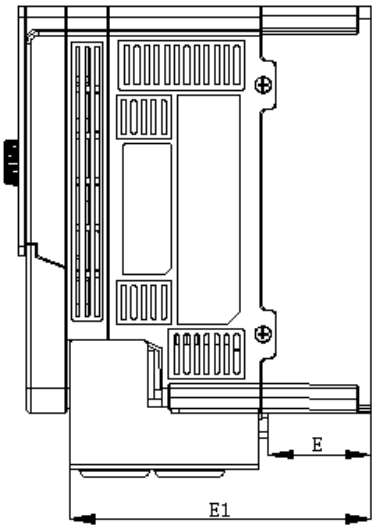
Model	Dimensions													N.W (Kg)
	W	W1	W2	H	H1	H2	D	D1	D2	E1	E2	Q1	Q2	
FID-E2-150-43F	224.6 (8.84)	207 (8.15)	207 (8.15)	435.8 (17.16)	303.5 (11.95)	330.9 (13.03)	200.5 (7.9)	187.5 (7.38)	192.5 (7.58)	64.2 (2.53	192.5 (7.58)	6 (0.24)	6 (0.24)	13.7
FID-E2-185-43F														13.7

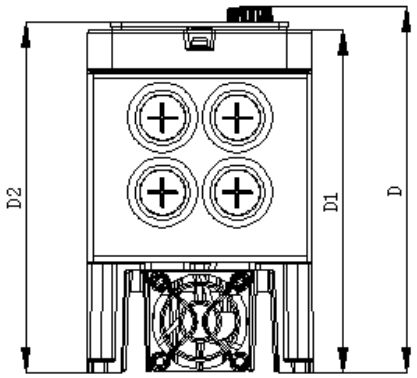
Frame1 (NEMA1)

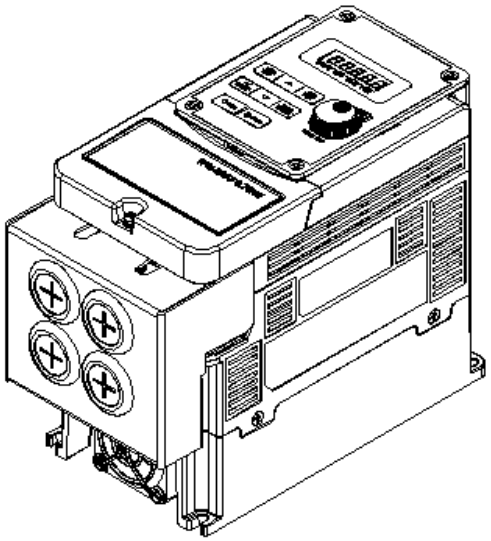
Single/Three phase：200V 0.5~1HP；Single：200V 0.5~1HP

Three phase： 400V 1~2HP









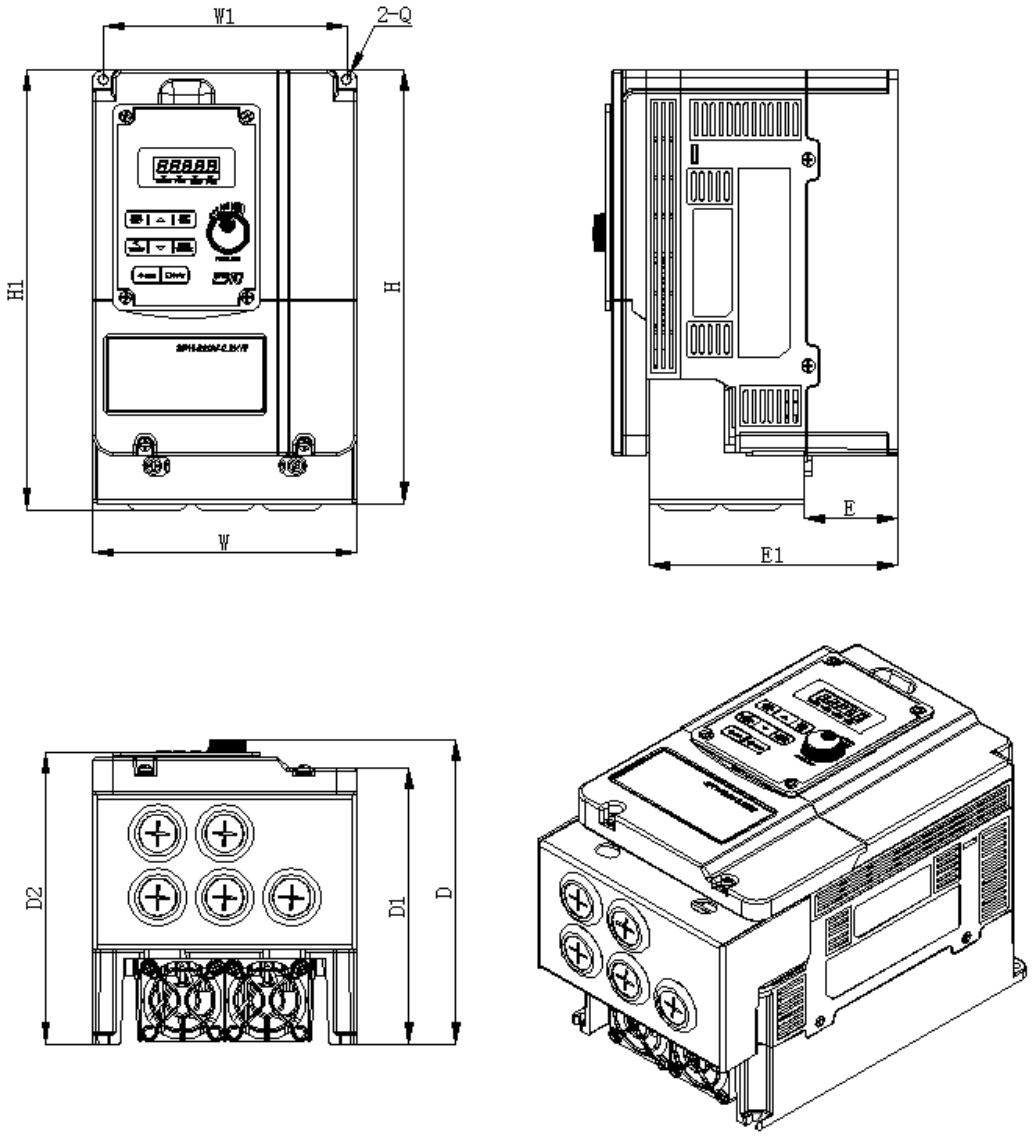
Unit：mm(inch)

Model	Dimensions										N.W (Kg)
	W	W1	H	H1	D	D1	D2	E	E1	Q	
FID-E2-004-2A	90.65 (3.57)	80.5 (3.17)	186.2 (7.33)	189.2 (7.45)	149 (5.87)	137.8 (5.42)	140.8 (5.54)	41.2 (1.62)	120.5 (4.74)	4.33 (0.17)	1.8
FID-E2-007-2A											1.8
FID-E2-004-21F											1.9
FID-E2-007-21F											1.9
FID-E2-007-43											1.9
FID-E2-015-43											1.9
FID-E2-007-43F											1.9
FID-E2-015-43F											1.9

Frame2 (NEMA1)

Single/Three phase：200V 2~3HP；Single：200V 2~3HP

Three phase： 400V 3~5HP

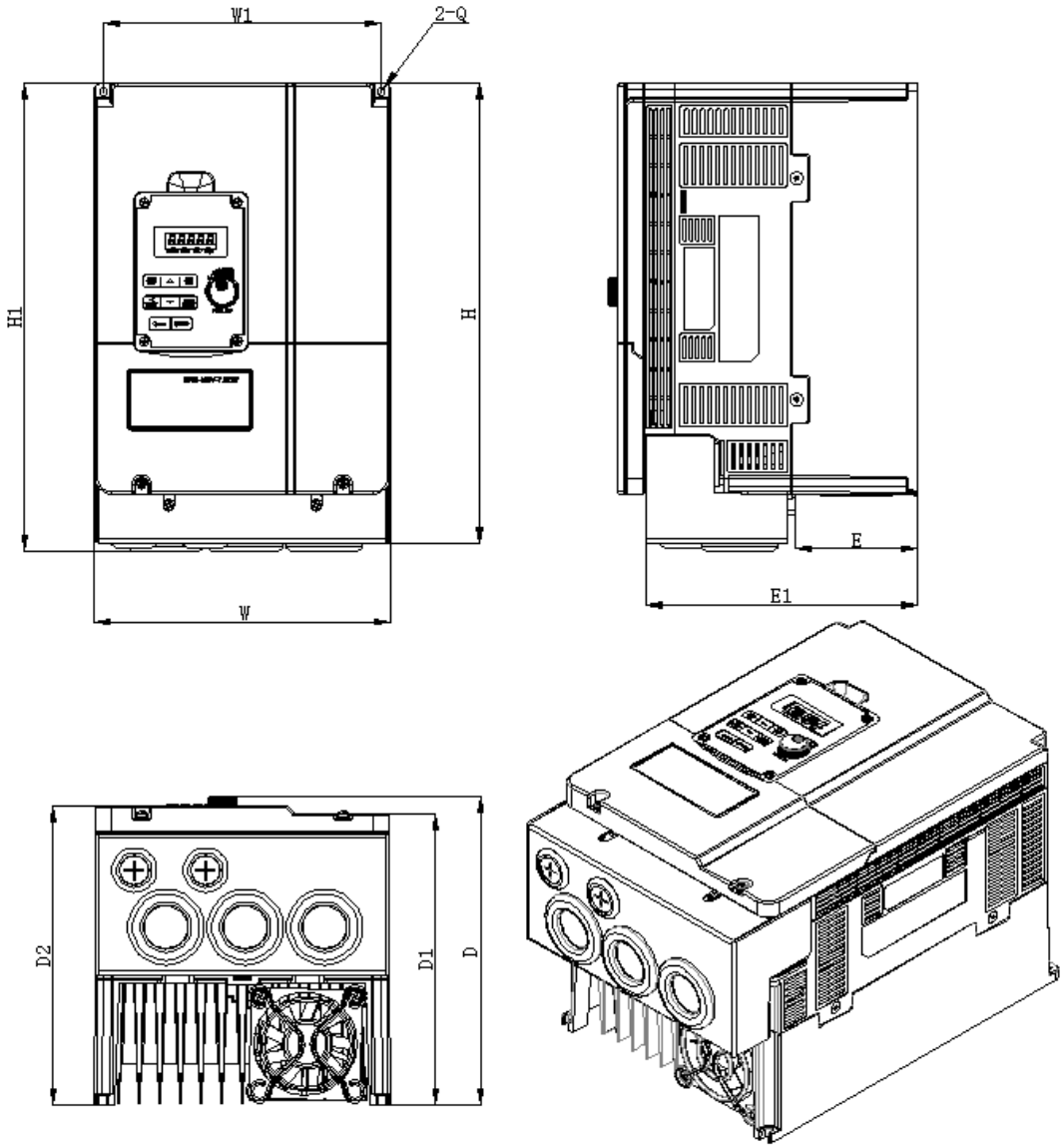


Unit：mm(inch)

Model	Dimensions										N.W (Kg)
	W	W1	H	H1	D	D1	D2	E	E1	Q	
FID-E2-015-2A	128.7 (5.06)	118.3 (4.66)	210.6 (8.29)	213.6 (8.41)	148 (5.87)	133.8 (5.27)	141.8 (5.58)	46.1 (1.81)	121.1 (4.77)	4.5 (0.18)	2.7
FID-E2-022-2A											2.7
FID-E2-015-21F											2.8
FID-E2-022-21F											2.8
FID-E2-022-43											2.8
FID-E2-037-43											2.8
FID-E2-022-43F											2.8
FID-E2-037-43F											2.8

Frame3 (NEMA1)

Three phase： 400V 7.5~15HP

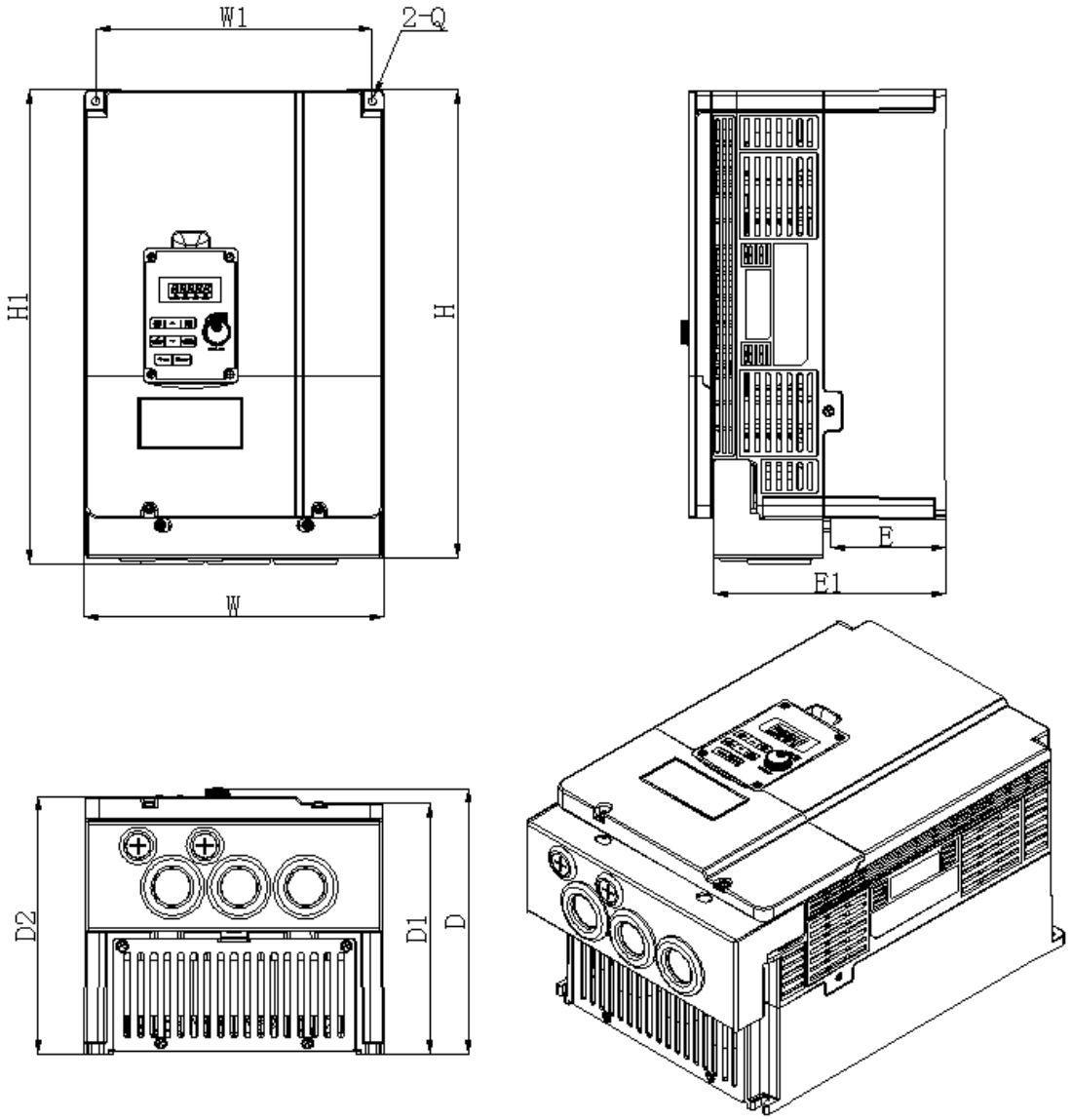


Unit：mm(inch)

Model	Dimensions										N.W (Kg)
	W	W1	H	H1	D	D1	D2	E	E1	Q	
FID-E2-055-43	186.9 (7.36)	175 (6.89)	291 (11.47)	296 (11.65)	197 (7.76)	184 (7.24)	189 (7.44)	76.7 (3.02)	170.6 (6.72)	4.5 (0.17)	6.9
FID-E2-075-43											6.9
FID-E2-110-43											6.9
FID-E2-055-43F											7.1
FID-E2-075-43F											7.1
FID-E2-110-43F											7.1

Frame4 (NEMA1)

Three phase： 400V 20~25HP



Unit：mm(inch)

Model	Dimensions										N.W (Kg)
	W	W1	H	H1	D	D1	D2	E	E1	Q	
FID-E2-150-43	224.6 (8.84)	207 (8.15)	350.1 (13.78)	355.1 (13.98)	200.5 (7.9)	187.5 (7.38)	192.5 (7.58)	86 (3.89)	174 (6.85)	6 (0.24)	10.9
FID-E2-185-43											11

Chapter 3 Software Index

3.1 Keypad Description

3.1.1 Operator Panel Functions

Type	Item	Function
Digital display & LEDs	Main digital displays	Frequency Display, Parameter, voltage, Current, Temperature , Fault messages.
	LED Status	Hz/RPM: ON when the frequency or line speed is displayed. OFF when the parameters are displayed. FWD: ON while the inverter is running forward. Flashes while stopped. REV: ON while the inverter is running reverse. Flashes while stopped. FUN: ON when the parameters are displayed. OFF when the frequency is displayed.
Variable Resistor	FREQ SET	Used to set the frequency
Keys On Keypad (8 buttons)	RUN	RUN: Run at the set frequency.
	STOP	STOP: Decelerate or Coast to Stop.
	▲	Increment parameter number and preset values.
	▼	Decrement parameter number and preset values.
	FWD/REV （Dual function keys）	FWD: Forward Run REV: Reverse Run
	DSP/FUN （Dual function keys）	DSP: Switch between available displays FUN: Used to examine the parameter content
	READ/ENTER （Dual function keys）	READ: ENTER: Used to display the preset value of parameters and for saving the changed parameter values.
	</ RESET (Dual function keys)	“<”Left Shift: used while changing the parameters or parameter values RESET: Use to Reset alarms or resettable faults

3.2 Programmable Parameter Groups

Parameter Group No.	Description
Group 00	Basic parameters
Group 01	V/F Pattern selections & setup
Group 02	Motor parameters
Group 03	Multi function digital Inputs/Outputs
Group 04	Analog signal inputs/ Analog output
Group 05	Preset Frequency Selections.
Group 06	Auto Run function (Auto Sequencer)
Group 07	Start/Stop command setup
Group 08	Drive and motor Protection
Group 09	Communication function setup
Group 10	PID function setup
Group 11	Performance control functions
Group 12	Digital Display & Monitor functions
Group 13	Inspection & Maintenance functions
Group 14	PLC Setting function
Group 15	PLC Monitoring function

Parameter notes for Parameter Groups	
*1	Parameter can be adjusted during running mode
*2	Cannot be modified in communication mode
*3	Does not change with factory reset
*4	Read only
*5	Available for above V1.1
*6	Available for above V1.3

Group 00- Basic parameters					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
00-00	Control Mode Selection	0:V/F Mode 1:Vector Mode	0	-	
00-01	Reserved				
00-02	Main Run Command Source Selection	0:Keypad 1:External Run/Stop Control 2:Communication 3:PLC	0	-	
00-03	Alternative Run Command Source Selection	0:Keypad 1:External Run/Stop Control 2:Communication	0	-	
00-04	Operation Modes for External Terminals	0: Forward/Stop-Reverse/Stop 1: Run/Stop- Reverse/Forward 2: 3 Wire Control Mode-Run/Stop	0	-	
00-05	Main Frequency Command Source Selection	0:UP/DOWM of Keypad 1:Potentiometer on Keypad 2:External AI1Analog Signal Input 3:External AI2 Analog Signal Input 4:External Up/Down Frequency Control 5:Communication Setting Frequency 6:PID Ouput Frequency 7:Pulse Input	0	-	 ***6**
00-06	Alternative Frequency Command Source Selection	0:UP/DOWM of Keypad 1:Potentiometer on Keypad 2:External AI1Analog Signal Input 3:External AI2 Analog Signal Input 4:External Up/Down Frequency Control 5:Communication Setting Frequency 6:PID Ouput Frequency 7:Pulse Input	4	-	 ***6**
00-07	Main and Alternative Frequency Command Modes	0: Main or Alternative Frequency 1: Main Frequency+ Alternative Frequency	0	-	
00-08	Communication Frequency Command	0.00~650.00	60.00	Hz	*4
00-09	Frequency Command Save on Power Down	0: Disable 1: Enable	0	-	
00-10	Initial Frequency Selection (keypad mode)	0:by Current Frequency Command 1:by 0 Frequency Command 2:by 00-11	0	-	
00-11	Initial Frequency Setpoint	0.00~650.00	50.00/60.00	Hz	
00-12	Frequency Upper Limit	0.01~650.00	50.00/60.00	Hz	
00-13	Frequency Lower Limit	0.00~649.99	0.00	Hz	
00-14	Acceleration Time 1	0.1~3600.0	10.0	Sec	*1
00-15	Deceleration Time 1	0.1~3600.0	10.0	Sec	*1
00-16	Acceleration Time 2	0.1~3600.0	10.0	Sec	*1
00-17	Deceleration Time 2	0.1~3600.0	10.0	Sec	*1
00-18	Jog Frequency	0.00~650.00	2.00	Hz	*1
00-19	Jog Acceleration Time	0.1~3600.0	0.5	Sec	*1
00-20	Jog Deceleration Time	0.1~3600.0	0.5	Sec	*1

Group 01- V/F Pattern selection & Setup					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
01-00	Volts/Hz Patterns	1~18	0/9	-	
01-01	V/F Max voltage	200V:170.0～264.0 400V:323.0～528.0	220.0/440.0	Vac	
01-02	Max Frequency	0.20 ~ 650.00	50.00/60.00	Hz	
01-03	Max Frequency Voltage Ratio	0.0 ~ 100.0	100.0	%	
01-04	Mid Frequency 2	0.10 ~ 650.00	25.00/30.00	Hz	
01-05	Mid Frequency Voltage Ratio 2	0.0 ~ 100.0	50.0	%	
01-06	Mid Frequency 1	0.10 ~ 650.00	10.00/12.00	Hz	
01-07	Mid Frequency Voltage Ratio 1	0.0 ~ 100.0	20.0	%	
01-08	Min Frequency	0.10 ~ 650.00	0.50/0.60	Hz	
01-09	Min Frequency Voltage Ratio	0.0 ~ 100.0	1.0	%	
01-10	Volts/Hz Curve Modification (Torque Boost)	0 ~ 10.0	0.0	%	*1
01-11	V/F start Frequency	0.00~10.00	0.00	Hz	
01-12	Slip compensation gain	0.05~10.00	0.10	ms	
01-13	V/F Mode Select	0 : Mode 0 1 : Mode 1	0	-	

Group 02- Motor parameters					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
02-00	Motor No Load Current	0~[(Patameter 02-01)-0.1]	-	Amps(AC)	*4
02-01	Motor Rated Current (OL1)	0.2~100	-	A	*4
02-02	Motor rated Slip Compensation	0.0 ~ 200.0	0.0	%	*1
02-03	Motor rated speed	0~39000	-	Rpm	*4
02-04	Motor rated voltage	200V: 170.0~264.0 400V: 323.0~528.0	220.0/440.0	V	
02-05	Motor rated power	0.1~37.0	-	KW	
02-06	Motor rated frequency	0~650.0	50.0/60.0	Hz	
02-07	Motor pole number	2 ~16	4	-	
02-08 ~ 02-13	Reserved				
02-14	Auto Tune	0: Disable 1: Start Auto tune function.	0		
02-15	Stator resistance gain	----			*3*4
02-16	Rotor resistance gain	----			*3*4

Group 03- External Digital Inputs and Relay Output Functions					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
03-00	Multifunction Input Term. S1	0:Forward/Stop Command	0	-	
03-01	Multifunction Input Term. S2	1:Reverse/Stop Command	1	-	
03-02	Multifunction Input Term. S3	2:Preset Speed 0(5-02)	2	-	
03-03	Multifunction Input Term. S4	3:Preset Speed 1(5-03)	3	-	
03-04	Multifunction Input Term. S5	4:Preset Speed 2(5-05)	4	-	
03-05	Multifunction Input Term. S6	5:Preset Speed 3(5-09)	17		
		6:Jog Forward Command			
		7:Jog Reverse Command			
		8:Up Command			
		9:Down Command			
		10:Acc/Dec 2			
		11:Acc/Dec Disabled			
		12:Main/Alternative run source select			
		13:Main/ Alternative Frequency Command select			
		14: Rapid Stop (Decel to stop)			
		15: Base Block			
		16: Disabl PID Function			
		17:Reset			
		18:Auto Run Mode Enable			
		19:Speed Search			
		20:Energy Saving (only V/F)			
		21: Reset PID integral value to Zero			
		22: Counter Input			
		23: Counter Reset			
		24: PLC Input			
		25:Pulse Input-Width Measure (S3)			***6**
		26:Pulse Input-Frequenct Measure (S3)			
		27:Enable KEB Function			***6**
		28:Fire mode function			***5**
03-06	Up/Down frequency step	0.00~5.00	0.00	Hz	
03-07	Up/Down Keep Frequency Status after Stop Command	0: When Up/Down is used, the preset frequency is held as the inverter stops, and the UP/Down function is disabled	0	-	
		1:When Up/Down is used, the preset frequency is reset to 0 Hz as the inverter stops.			
		2:When Up/Down is used, the preset frequency is held as the inverter stops, and the UP/Down is available.			
03-08	S1 ~ S6 scan confirmation	1~200 Number of Scan cycles	10	2ms	
03-09	S1~ S5 switch type select	xxxx0:S1 NO xxxx1:S1 NC	00000	-	
		xxx0x:S2 NO xxx1x:S2 NC			
		xx0xx:S3 NO xx1xx:S3 NC			
		x0xxx:S4 NO x1xxx:S4 NC			
		0xxxx:S5 NO 1xxxx:S5 NC			
03-10	S6 switch type select	xxxx0:S6 NO xxxx1:S6 NC	00000	-	
03-11	Output Relay RY1 (Terminals R1A,R1B, R1C)	0:Run	0	-	
03-12	Output Relay RY2.	1:Fault	1		

Group 03- External Digital Inputs and Relay Output Functions					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
	(Terminals R2A, R2B)	2:Setting Frequency Reached			
		3:Frequency Reached. Set by (3-13±3-14)			
		4:Output Frequency Detection1(> 3-13)			
		5:Output Frequency Detection2(< 3-13)			
		6:Auto Restart			
		7:Momentary AC Power Loss			
		8:Rapid Stop			
		9:Base Block			
		10:Motor Overload Protection(OL1)			
		11:Drive Overload Protection(OL2)			
		12: Over-torque Threshold Level (OL3)			
		13:Preset Output Current Reached(03-15~16)			
		14:Brake Control ON(03-17~18)			
		15:PID Feedback Signal Loss			
		16:Final count value reached (3-22~23）			
		17:Initial count value reached (3-22~23)			
		18:PLC Status Indicator (00-02)			
		19:PLC control			
		20:Zero Speed			***6**
03-13	Frequency Reached Level	0.00~650.00	0.00	Hz	*1
03-14	Frequency Reached Detection Range (±)	0.00~30.00	2.00	Hz	*1
03-15	Preset output current reached	0.1~15.0	0.1	A	
03-16	Preset output Current detection delay Time	0.1~10.0	0.1	Sec	
03-17	Brake Release level	0.00~20.00	0.00	Hz	
03-18	Brake Engage Level	0.00~20.00	0.00	Hz	
03-19	Relay Output function type	0:A (Normally open) 1:B (Normally close)	0	-	
03-20	Internal / external multi-function input terminal selection	0~63	0	-	
03-21	Action to set the internal multi-function input terminals	0~63	0	-	
03-22	Final preset Count reached	0~9999	0	-	
03-23	Initial preset count reached	0~9999	0	-	
03-24	Low Current detection selection.	0:Disable 1:Enable	0	-	
03-25	Low Current Detection Level	5%~100%	20%	%	
03-26	Low Current Detection Delay Time	0.0~50.0s	20.0	Sec	
03-27	Pulse Frequency	0.01~0.20	0.1	kHz	*6
03-28	Pulse Frequency Gain	0.01~9.99	1.00		*6

※ “NO” indicates normally open, “NC” indicates normally closed.

Group 04- Analog signal inputs / Analog output					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
04-00	Analog Input Signal Type Select (AI1/AI2)	AI1 AI2 **(0): 0~10V (0~20mA) 0~10V (0~20mA)** **(1): 0~10V (0~20mA) 2~10V (4~20mA)** **(2): 2~10V (4~20mA) 0~10V (0~20mA)** **(3): 2~10V (4~20mA) 2~10V (4~20mA)**	1	-	
04-01	AI1 Signal Verification Scan Rate	1~200	50	2ms	
04-02	AI1 Gain	0 ~ 1000	100	%	*1
04-03	AI1 Bias	0 ~ 100	0	%	*1
04-04	AI1 Bias Selection	0: Positive 1: Negative	0	-	*1
04-05	AI1 Slope	0: Positive 1: Negative	0	-	*1
04-06	AI2 Signal Verification Scan Rate	1~200	50	2ms	
04-07	AI2 Gain	0 ~ 1000	100	%	*1
04-08	AI2 Bias	0 ~ 100	0	%	*1
04-09	AI2 Bias Selection	0: Positive 1: Negative	0	-	*1
04-10	AI2 Slope	0: Positive 1: Negative	0	-	*1
04-11	Analog Output (AO) Mode	0: Output Frequency 1: Frequency Command 2: Output Voltage 3: DC Bus Voltage 4: Motor Current (100% rated current)	0	-	*1
04-12	Analog Output (AO) Gain	0 ~ 1000	100	%	*1
04-13	Analog Output (AO) Bias	0 ~ 100	0	%	*1
04-14	AO Bias Selection	0: Positive 1: Negative	0	-	*1
04-15	AO Slope	0: Positive 1: Negative	0	-	*1
04-16	F-Gain Function	0: Invalid 1: Effective	0	-	*1

Group 05- Preset Frequency Selections					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
05-00	Preset Speed Control Mode Selection	0: Common Accel/Decel Accel/Decel 1 or 2 apply to all speeds 1: Individual Accel/Decel for each preset speed 0-15 apply to the selected preset speeds (Acc0/Dec0~Acc15/Dec15)	0	-	
05-01	Preset Speed 0 (Keypad Freq)	0.00 ~ 650.00	5.00	Hz	
05-02	Preset Speed1 (Hz)		5.00	Hz	*1
05-03	Preset Speed2 (Hz)		10.00	Hz	*1
05-04	Preset Speed3 (Hz)		20.00	Hz	*1
05-05	Preset Speed4 (Hz)		30.00	Hz	*1
05-06	Preset Speed5 (Hz)		40.00	Hz	*1
05-07	Preset Speed6 (Hz)		50.00	Hz	*1
05-08	Preset Speed7 (Hz)		50.00	Hz	*1
05-09	Preset Speed8 (Hz)		0.00	Hz	*1
05-10	Preset Speed9 (Hz)		0.00	Hz	*1
05-11	Preset Speed10 (Hz)		0.00	Hz	*1
05-12	Preset Speed11 (Hz)		0.00	Hz	*1
05-13	Preset Speed12 (Hz)		0.00	Hz	*1
05-14	Preset Speed13 (Hz)		0.00	Hz	*1
05-15	Preset Speed14 (Hz)		0.00	Hz	*1
05-16	Preset Speed15 (Hz)		0.00	Hz	*1
05-17	Preset Speed0-Acctime	0.1 ~ 3600.0	10.0	Sec	*1
05-18	Preset Speed0-Dectime		10.0	Sec	*1
05-19	Preset Speed1-Acctime		10.0	Sec	*1
05-20	Preset Speed1-Dectime		10.0	Sec	*1
05-21	Preset Speed2-Acctime		10.0	Sec	*1
05-22	Preset Speed2-Dectime		10.0	Sec	*1
05-23	Preset Speed3-Acctime		10.0	Sec	*1
05-24	Preset Speed3-Dectime		10.0	Sec	*1
05-25	Preset Speed4-Acctime		10.0	Sec	*1
05-26	Preset Speed4-Dectime		10.0	Sec	*1
05-27	Preset Speed5-Acctime		10.0	Sec	*1
05-28	Preset Speed5-Dectime		10.0	Sec	*1
05-29	Preset Speed6-Acctime		10.0	Sec	*1
05-30	Preset Speed6-Dectime		10.0	Sec	*1
05-31	Preset Speed7-Acctime		10.0	Sec	*1
05-32	Preset Speed7-Dectime		10.0	Sec	*1
05-33	Preset Speed8-Acctime		10.0	Sec	*1
05-34	Preset Speed8-Dectime		10.0	Sec	*1
05-35	Preset Speed9-Acctime		10.0	Sec	*1
05-36	Preset Speed9-Dectime		10.0	Sec	*1
05-37	Preset Speed10-Acctime		10.0	Sec	*1
05-38	Preset Speed10-Dectime		10.0	Sec	*1
05-39	Preset Speed11-Acctime		10.0	Sec	*1
05-40	Preset Speed11-Dectime		10.0	Sec	*1
05-41	Preset Speed12-Acctime		10.0	Sec	*1
05-42	Preset Speed12-Dectime		10.0	Sec	*1

Group 05- Preset Frequency Selections					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
05-43	Preset Speed13-Acctime		10.0	Sec	*1
05-44	Preset Speed13-Dectime		10.0	Sec	*1
05-45	Preset Speed14-Acctime		10.0	Sec	*1
05-46	Preset Speed14-Dectime		10.0	Sec	*1
05-47	Preset Speed15-Acctime		10.0	Sec	*1
05-48	Preset Speed15-Dectime		10.0	Sec	*1

Group 06- Auto Run Function (Auto Sequencer)					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
06-00	Auto Run Mode Selection (Sequencer)	0: Disabled. 1: Single cycle. (Continues to run from the Unfinished step if restarted). 2: Periodic cycle. (Continues to run from the unfinished step if restarted). 3: Single cycle, then holds the speed Of final step to run. (Continues to run from the unfinished step if restarted). 4: Single cycle. (Starts a new cycle if restarted). 5: Periodic cycle. (Starts a new cycle if restarted). 6: Single cycle, then hold the speed of final step to run. (Starts a new cycle if restarted).	0	-	
06-01	Auto _ Run Mode Frequency Command 1	0.00~650.00	0.00	Hz	*1
06-02	Auto _ Run Mode Frequency Command 2		0.00	Hz	*1
06-03	Auto _ Run Mode Frequency Command 3		0.00	Hz	*1
06-04	Auto _ Run Mode Frequency Command 4		0.00	Hz	*1
06-05	Auto _ Run Mode Frequency Command 5		0.00	Hz	*1
06-06	Auto _ Run Mode Frequency Command 6		0.00	Hz	*1
06-07	Auto _ Run Mode Frequency Command 7		0.00	Hz	*1
06-08	Auto _ Run Mode Frequency Command 8		0.00	Hz	*1
06-09	Auto _ Run Mode Frequency Command 9		0.00	Hz	*1
06-10	Auto _ Run Mode Frequency Command10		0.00	Hz	*1
06-11	Auto _ Run Mode		0.00	Hz	*1

Group 06- Auto Run Function (Auto Sequencer)					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
	Frequency Command 11				
06-12	Auto _ Run Mode Frequency Command 12		0.00	Hz	*1
06-13	Auto _ Run Mode Frequency Command 13		0.00	Hz	*1
06-14	Auto _ Run Mode Frequency Command 14		0.00	Hz	*1
06-15	Auto _ Run Mode Frequency Command 15		0.00	Hz	*1
06-16	Auto_ Run Mode Running Time Setting 0	0.0 ~ 3600.0	0.0	Sec	
06-17	Auto_ Run Mode Running Time Setting 1		0.0	Sec	
06-18	Auto_ Run Mode Running Time Setting 2		0.0	Sec	
06-19	Auto_ Run Mode Running Time Setting 3		0.0	Sec	
06-20	Auto_ Run Mode Running Time Setting 4		0.0	Sec	
06-21	Auto_ Run Mode Running Time Setting 5		0.0	Sec	
06-22	Auto_ Run Mode Running Time Setting 6		0.0	Sec	
06-23	Auto_ Run Mode Running Time Setting 7		0.0	Sec	
06-24	Auto_ Run Mode Running Time Setting 8		0.0	Sec	
06-25	Auto_ Run Mode Running Time Setting 9		0.0	Sec	
06-26	Auto_ Run Mode Running Time Setting 10		0.0	Sec	
06-27	Auto_ Run Mode Running Time Setting 11		0.0	Sec	
06-28	Auto_ Run Mode Running Time Setting 12		0.0	Sec	
06-29	Auto_ Run Mode Running Time Setting 13		0.0	Sec	
06-30	Auto_ Run Mode Running Time Setting 14		0.0	Sec	

Group 06- Auto Run Function (Auto Sequencer)					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
06-31	Auto_ Run Mode Running Time Setting 15		0.0	Sec	
06-32	Auto_ Run Mode Running Direction 0	0: Stop 1: Forward 2: Reverse	0	-	
06-33	Auto_ Run Mode Running Direction 1		0	-	
06-34	Auto_ Run Mode Running Direction 2		0	-	
06-35	Auto_ Run Mode Running Direction 3		0	-	
06-36	Auto_ Run Mode Running Direction 4		0	-	
06-37	Auto_ Run Mode Running Direction 5		0	-	
06-38	Auto_ Run Mode Running Direction 6		0	-	
06-39	Auto_ Run Mode Running Direction 7		0	-	
06-40	Auto_ Run Mode Running Direction 8		0	-	
06-41	Auto_ Run Mode Running Direction 9		0	-	
06-42	Auto_ Run Mode Running Direction10		0	-	
06-43	Auto_ Run Mode Running Direction 11		0	-	
06-44	Auto_ Run Mode Running Direction12		0	-	
06-45	Auto_ Run Mode Running Direction13		0	-	
06-46	Auto_ Run Mode Running Direction 14		0	-	
06-47	Auto_ Run Mode Running Direction 15		0	-	

※ Frequency of the step 0 is set by parameter 05-01, keypad frequency.

Group 07- Start/Stop Command Setup					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
07-00	Momentary Power Loss and Restart	0: Momentary Power Loss and Restart Disable 1: Momentary Power Loss and Restart Enable	0	-	
07-01	Auto Restart Delay Time	0.0~800.0	0.0	Sec	
07-02	Number of Auto Restart Attempts	0~10	0	-	
07-03	Reset Mode Setting	0: Enable Reset Only when Run Command is Off 1: Enable Reset when Run Command is On or Off	0	-	

07-04	Direct Running on Power Up	0: Enable Direct run on power up 1: Disable Direct run on power up	1	-	
07-05	Delay-ON Timer	1.0~300.0	1.0	Sec	
07-06	DC Injection Brake Start Frequency (Hz) In Stop Mode	0.10 ~ 10.00	1.5	Hz	
07-07	DC Injection Brake Level (%) In Stop Mode	0.0 ~ 150.0	50.0	%	
07-08	DC Injection Brake Time (Seconds) In Stop Mode	0.0 ~ 25.5	0.5	Sec	
07-09	Stopping Method	0: Deceleration to stop 1: Coast to stop	0	-	
07-10	Starting Methods	0: Normal Start 1: Speed Search	0	-	
07-11	Starting method for auto restart after fault	0: Speed Search 1: Normal start	0	-	
07-12	Power Loss Ride Through Time	0.0 ~ 2.0	0.5	Sec	
07-13	Main Circuit Low Voltage Detection Level	150.0~210.0 300.0~420.0	190.0/380.0	Vac	
07-14	Kinetic Energy Back-up Deceleration Time	0.0~25.0: KEB Deceleration Time	0.0	Sec	
07-15	DC Brake Select	0 : Current Mode 1 : Voltage Mode	1	-	*6
07-16	DC Brake Voltage Level for the Voltage mode	0.0~10.0	4.0	-	*6

Group 08- Drive & Motor Protection Functions					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
08-00	Trip Prevention Selection	xxxx0: Enable Trip Prevention During Acceleration xxxx1: Disable Trip Prevention During Acceleration xxx0x: Enable Trip Prevention During Deceleration xxx1x: Disable Trip Prevention During Deceleration xx0xx: Enable Trip Prevention in Run Mode xx1xx: Disable Trip Prevention in Run Mode x0xxx: Enable Over Voltage Prevention in Run Mode x1xxx: Disable Over Voltage Prevention in Run Mode	01000	-	*5
08-01	Trip Prevention Level During Acceleration (%)	50 ~ 200	200	%[1]	
08-02	Trip Prevention Level During Deceleration (%)	50 ~ 200	200		
08-03	Trip Prevention Level in Run Mode (%)	50 ~ 200	200		
08-04	Over Voltage Prevention Level in Run Mode	350.0~390.0/700.0~780.0	380.0/760.0	VDC	*1

[1] Base on the percentage of inverter rated current.

Group 08- Drive & Motor Protection Functions					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
08-05	Electronic Motor Overload Protection Operation Mode	0: Enable Electronic Motor Overload Protection 1: Disable Electronic Motor Overload Protection	0	-	
08-06	Operation After Overload Protection is Activated	0: Coast-to-Stop After Overload Protection is Activated 1: Drive Will Not Trip when Overload Protection is Activated (OL1)	0	-	
08-07	Over Heat Protection (cooling fan control)	0: Auto (Depends on temp.) 1: Operate while in RUN Mode 2: Always Run 3: Disabled	1	-	
08-08	AVR Function (Auto Voltage Regulation)	0: AVR Function Enable 1: AVR Function Disable 2: AVR Function Disable for Stop 3: AVR Function Disable for Deceleration. 4: AVR Function Disabled for Stop and Deceleration. 5: When VDC>360V，AVR Function is Disabled for Stop and Deceleration.	4	-	
08-09	Input Phase Loss Protection	0:Disabled 1:Enabled	0	-	
08-10	Output Phase Losts Protection	0:Disabled 1:Enabled	0	-	
08-11	Motor Type Selection	0:Overload protection (Standard Motor) 1:Overload protection (Inverter Duty Motor)	0	-	
08-12	Motor Overload Protection Curve	0: Motor Overload Protection for General loads (OL=103 %) (150% for 1 Minutes) 1: Motor Over load Protection for HVAC (Fan & Pump) (OL=113%) (123% for 1 Minutes).	0	-	
08-13	Over Torque Detection Control	0: Over Torque Detection Disabled 1: Detected After the Setting Frequency 2: Detected When Running	0	-	
08-14	Over torque protection action	0:Stop Output After Over Torque Detection (Free Run to Stop) 1:Continue Running After Over Torque Detection (Display only OL3)	0	-	
08-15	Over Torque Detection Level	30~300	160	-	
08-16	Over Torque Detection Time	0.0~25.0	0.1	-	
08-17	Fire Mode	0:Disabled. 1:Enabled	0	-	*5
08-18	Ground Fault Detection	0:Disabled 1:Enabled	0		

Notes:Regarding fire mode function, please refer to the conditions below,

1. Before the software rev. 1.1, the fire mode is funtional when 08-17 = 1
2. After the software 1.1,the firemode is functional when 03-00~03-05 =【28】
3. The keypad display will indicate FIrE
4. Under fire mode function, the inverter will run at full speed

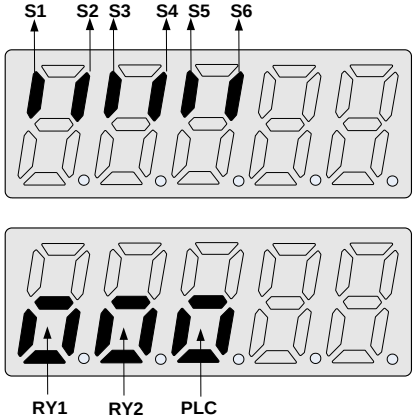
Group 09- Communication function setup					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
09-00	Assigned Communication Station Number	1 ~ 32	1	-	*2*3
09-01	RTU/ASCII Code Selection	0:RTU Code 1:ASCII Code	0	-	*2*3
09-02	Baud Rate Setting (bps)	0:4800 1:9600 2:19200 3:38400	2	bps	*2*3
09-03	Stop Bit Selection	0:1 Stop Bit 1:2 Stop Bits	0	-	*2*3
09-04	Parity Selection	0:Without Parity 1:With Even Parity 2:With Odd Parity	0	-	*2*3
09-05	Data Format Selection	0: 8-Bits Data 1: 7-Bits Data	0	-	*2*3
09-06	Communication Time-Out Detection Time	0.0 ~ 25.5	0.0	Sec	
09-07	Communication Time Out Operation Selection	0:Deceleration to Stop (00-15: Deceleration Time 1) 1:Coast to Stop 2:Deceleration to Stop (00-17: Deceleration Time 2) 3:Continue Operating	0	-	
09-08	Error 6 Verification Time.	1 ~ 20	3		
09-09	Drive Transmit Delay Time(ms)	5 ~ 65	5	ms	

Group 10- PID Function Setup					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
10-00	PID Target Value Selection (When 00-03\00-04=6 This Function is Enabled)	0:Potentiometer on Keypad 1: Analog Signal Input. (AI1) 2: Analog Signal Input. (AI2) 3: Frequency Set by Communication 4: Keypad Frequency Parameter 10-02	1	-	*1
10-01	PID Feedback Value Selection	0:Potentiometer on Keypad 1: Analog Signal Input. (AI1) 2: Analog Signal Input. (AI2) 3: Frequency Set by Communication	2	-	*1
10-02	PID Target(Keypad Input)	0.0~100.0	50.0	%	*1
10-03	PID Mode Selection	0: Disabled 1: Deviation D Control. FWD Characteristic. 2: Feedback D Control FWD Characteristic. 3: Deviation D Control Reverse Characteristic. 4: Feedback D Control Reverse Characteristic.	0	-	
10-04	Feedback Gain Coefficient	0.00 ~ 10.00	1.00	%	*1
10-05	Proportional Gain	0.0 ~ 10.0	1.0		*1
10-06	Integral Time	0.0 ~ 100.0	10.0	Sec	*1

10-07	Derivative Time	0.00 ~ 10.00	0.00	Sec	*1
10-08	PID Offset	0: Positive 1: Negative	0	-	*1
10-09	PID Offset Adjust	0 ~ 109	0	%	*1
10-10	PID Output Lag Filter Time	0.0 ~ 2.5	0.0	Sec	*1
10-11	Feedback Loss Detection Mode	0: Disabled 1: Enabled - Drive Continues to Operate After Feedback Loss 2: Enabled - Drive "STOPS" After Feedback Loss	0	-	
10-12	Feedback Loss Detection Level	0 ~ 100	0	%	
10-13	Feedback Loss Detection Delay Time	0.0 ~25.5	1.0	Sec	
10-14	Integration Limit Value	0 ~ 109	100	%	*1
10-15	Integral Value Resets to Zero when Feedback Signal Equals the Target Value	0: Disabled 1: After 1 Second 30: After 30 Second (0~30)	0	-	
10-16	Allowable Integral value Error Margin (Units, 1 Unit = 1/8192)	0 ~ 100	0	-	
10-17	PID Sleep Frequency Level	0.00~650.00	0.00	Hz	
10-18	PID Sleep Function Delay Time	0.0 ~25.5	0.0	Sec	
10-19	PID Wake up frequency Level	0.00 ~ 650.00	0.00	Hz	
10-20	PID Wake up function Delay Time	0.0 ~ 25.5	0.0	Sec	
10-21	Max PID Feedback Setting Level	0 ~999	100	-	*1
10-22	Min PID Feedback Setting Level	0 ~999	0	-	*1

Group 11- Performance Control Functions					
No.	**Description**	**Range**	**Factory Setting**	**unit**	**Note**
11-00	Reverse Operation Control	0: Reverse Command is Enabled 1: Reverse Command is Disabled	0	-	
11-01	Carrier Frequency (kHz)	1~16	5	KHz	
11-02	Carrier Mode Selection	0: Mode0, 3Phase PWM modulation 1: Mode1, 2Phase PWM modulation 2: Mode2, 2Phase Random PWM Modulation	0	-	
11-03	Carrier Frequency Reduction by Temperature Rise	0:Disabled 1:Enabled	0	-	
11-04	S-Curve Acc 1	0.0 ~ 4.0	0.2	Sec	
11-05	S-Curve Acc 2	0.0 ~ 4.0	0.2	Sec	
11-06	S-Curve Dec 3	0.0 ~ 4.0	0.2	Sec	
11-07	S-Curve Dec 4	0.0 ~ 4.0	0.2	Sec	
11-08	Skip Frequency 1	0.00 ~ 650.00	0.00	Hz	*1
11-09	Skip Frequency 2	0.00 ~ 650.00	0.00	Hz	*1
11-10	Skip Frequency 3	0.00 ~ 650.00	0.00	Hz	*1
11-11	Skip Frequency Range Bandwith (±)	0.00 ~ 30.00	0.00	Hz	*1
11-12	Energy Saving Gain (V/F Mode)	0 ~ 100	80	%	

11-13	Regeneration Avoidance Operation Selection	0:Invalid 1:Vaild 2:Vaild (Only in The Constant Speed)	0	-	
11-14	Regeneration Avoidance Operation level	300~800V	380/760	V	
11-15	Regeneration Avoidance Frequency Limit Compensation	0.00 ~ 15.00	3.00	Hz	
11-16	Regeneration Avoidance Voltage Gain	0~200	100	%	
11-17	Regeneration Avoidance Frequency Gain	0~200	100	%	

Group 12 Digital Display & Monitor Functions					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
12-00	Extended Display Mode	00000~88888 Each digit can be set from 0 to 8 as listed below. 0: Default Display (Frequency and Parameters) 1:Output Current 2:Output Voltage 3:DC Voltage 4:Temperature 5:PID Feedback 6:Analog Signal Input. (AI1) 7:Analog Signal Input. (AI2) 8:Input Count value	00000	-	*1
12-01	PID Feedback Display Format	0:Integer (xxx) 1:One Decimal Place (xx.x) 2:Two Decimal Places (x.xx)	0	-	*1
12-02	PID Feedback Display Unit Setting	0:xxx-- 1:xxxpb(pressure) 2:xxxfl(flow)	0	-	*1
12-03	Custom Units (Line Speed) Value	0~65535	1500/1800	RPM	*1
12-04	Custom Units (Line Speed) Display Mode	0:Drive Output Frequency is Displayed 1:Line Speed.Integer.(xxxxx) 2:Line Speed.One Decimal Place. (xxxx.x) 3:Line Speed.Two Decimal Places (xxx.xx) 4:Line Speed.Three Decimal Places (xx.xxx)	0	-	*1
12-05	Inputs and Output Logic Status Display (S1~S6, RY1 and RY2)		-	-	*4

Group 12 Digital Display & Monitor Functions					
No.	**Description**	**Range**	**Factory Setting**	**Unit**	**Note**
12-06	Alarm Selections for Inverter Components Life Expectancy	xxxx0:Life Alarm of Inrush Current Suppression Circuit is Invalid xxxx1:Life Alarm of Inrush Current Suppression Circuit is Valid xxx0x:Life Alarm of Control Circuit Capacitors is Invalid xxx1x:Life Alarm of Control Circuit Capacitors is Valid xx0xx:Life Alarm of Main Circuit Capacitors is Invalid xx1xx:Life Alarm of Main Circuit Capacitors is Valid	00000	-	*1
12-07	Detect Main Circuit Capacitors	Reserved			
12-08	Display of Inrush Current Suppression Circuit	0~100	100	%	
12-09	Display of Control Circuit Capacitors	0~100	100	%	
12-10	Reserved				
12-11	Output Current when Fault Appeared	----	0	A	
12-12	Output Voltage when Fault Appeared	----	0	Vac	
12-13	Output Frequency when Fault Appeared	----	0	Hz	
12-14	DC Bus Voltage when Fault Appeared	----	0	Vac	
12-15	Frequency Command when Fault Appeared	----	0	Hz	

Group 13 Inspection & Maintenance Functions					
No.	**Description**	**Range**	**Factory Setting**	**unit**	**Note**
13-00	Drive Horsepower Code	----	-	-	*3
13-01	Software Version	----	-	-	*3*4
13-02	Fault Log (Latest 3 Faults)	----	-	-	*3*4
13-03	Accumulated Inverter Operation Time 1	0~23	-	hour	*3
13-04	Accumulated Inverter Operation Time 2	0~65535	----	day	*3
13-05	Accumulated Inverter Operation Time Mode	0: Power On time 1: Operation time	0	-	*3
13-06	Parameter Lock	0:Enable all Functions 1: Preset Speeds from 05-01 to 05-15 Can't be Changed 2:All Functions Can't be Changed Except for Preset speeds from 05-01 to 05-15 3: Disable All Functions Except 13-06	0	-	
13-07	Parameter Lock Code	00000~65535	00000	-	
13-08	Reset Drive to Factory Settings	1150:Reset to Factory Setting(50Hz System) 1160:Reset to Factory Setting(60 Hz System) 1112:Reset PLC	00000	-	

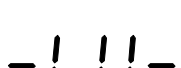
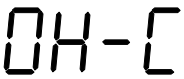
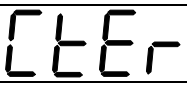
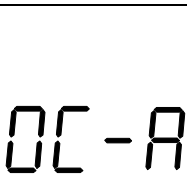
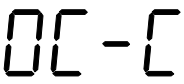
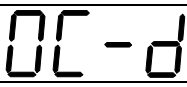
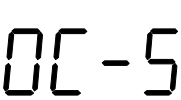
Group 14 PLC Setting function					
No.	**Description**	**Range**	**Factory Setting**	**unit**	**Note**
14-00	Setting Value1 of T1	0~9999	0	-	
14-01	Setting Value1 of T1 (mode 7)	0~9999	0	-	
14-02	Setting Value1 of T2	0~9999	0	-	
14-03	Setting Value1 of T2 (mode 7)	0~9999	0	-	
14-04	Setting Value1 of T3	0~9999	0	-	
14-05	Setting Value1 of T3 (mode 7)	0~9999	0	-	
14-06	Setting Value1 of T4	0~9999	0	-	
14-07	Setting Value1 of T4 (mode 7)	0~9999	0	-	
14-08	Setting Value1 of T5	0~9999	0	-	
14-09	Setting Value1 of T5 (mode 7)	0~9999	0	-	
14-10	Setting Value1 of T6	0~9999	0	-	
14-11	Setting Value1 of T6 (mode 7)	0~9999	0	-	
14-12	Setting Value1 of T7	0~9999	0	-	
14-13	Setting Value1 of T7 (mode 7)	0~9999	0	-	
14-14	Setting Value1 of T8	0~9999	0	-	
14-15	Setting Value1 of T8 (mode 7)	0~9999	0	-	
14-16	Setting Value1 of C1	0~65535	0	-	
14-17	Setting Value1 of C2	0~65535	0	-	
14-18	Setting Value1 of C3	0~65535	0	-	
14-19	Setting Value1 of C4	0~65535	0	-	
14-20	Setting Value1 of C5	0~65535	0	-	
14-21	Setting Value1 of C6	0~65535	0	-	
14-22	Setting Value1 of C7	0~65535	0	-	
14-23	Setting Value1 of C8	0~65535	0	-	
14-24	Setting Value1 of AS1	0~65535	0	-	
14-25	Setting Value2 of AS1	0~65535	0	-	
14-26	Setting Value3 of AS1	0~65535	0	-	
14-27	Setting Value1 of AS2	0~65535	0	-	
14-28	Setting Value2 of AS2	0~65535	0	-	
14-29	Setting Value3 of AS2	0~65535	0	-	
14-30	Setting Value1 of AS3	0~65535	0	-	
14-31	Setting Value2 of AS3	0~65535	0	-	
14-32	Setting Value3 of AS3	0~65535	0	-	
14-33	Setting Value1 of AS4	0~65535	0	-	
14-34	Setting Value2 of AS4	0~65535	0	-	
14-35	Setting Value3 of AS4	0~65535	0	-	
14-36	Setting Value1 of MD1	0~65535	1	-	
14-37	Setting Value2 of MD1	0~65535	1	-	
14-38	Setting Value3 of MD1	1~65535	1	-	
14-39	Setting Value1 of MD2	0~65535	1	-	
14-40	Setting Value2 of MD2	0~65535	1	-	
14-41	Setting Value3 of MD2	1~65535	1	-	
14-42	Setting Value1 of MD3	0~65535	1	-	
14-43	Setting Value2 of MD3	0~65535	1	-	
14-44	Setting Value3 of MD3	1~65535	1	-	
14-45	Setting Value1 of MD4	0~65535	1	-	
14-46	Setting Value2 of MD4	0~65535	1		
14-47	Setting Value3 of MD4	1~65535	1	-	

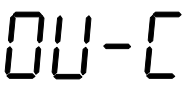
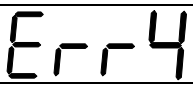
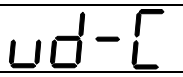
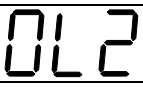
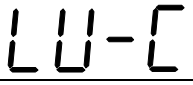
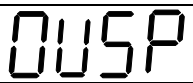
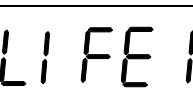
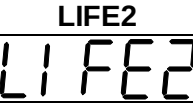
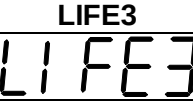
Group 15 PLC Monitoring function					
No.	**Description**	**Range**	**Factory Setting**	**unit**	**Note**
15-00	Current Value of T1	0~9999	0	-	
15-01	Current Value of T1(mode 7)	0~9999	0	-	
15-02	Current Value of T2	0~9999	0	-	
15-03	Current Value of T2(mode 7)	0~9999	0	-	
15-04	Current Value of T3	0~9999	0	-	
15-05	Current Value of T3(mode 7)	0~9999	0	-	
15-06	Current Value of T4	0~9999	0	-	
15-07	Current Value of T4(mode 7)	0~9999	0	-	
15-08	Current Value of T5	0~9999	0	-	
15-09	Current Value of T5(mode 7)	0~9999	0	-	
15-10	Current Value of T6	0~9999	0	-	
15-11	Current Value of T6(mode 7)	0~9999	0	-	
15-12	Current Value of T7	0~9999	0	-	
15-13	Current Value of T7(mode 7)	0~9999	0	-	
15-14	Current Value of T8	0~9999	0	-	
15-15	Current Value of T8(mode 7)	0~9999	0	-	
15-16	Current Value of C1	0~65535	0	-	
15-17	Current Value of C2	0~65535	0	-	
15-18	Current Value of C3	0~65535	0	-	
15-19	Current Value of C4	0~65535	0	-	
15-20	Current Value of C5	0~65535	0	-	
15-21	Current Value of C6	0~65535	0	-	
15-22	Current Value of C7	0~65535	0	-	
15-23	Current Value of C8	0~65535	0	-	
15-24	Current Value of AS1	0~65535	0	-	
15-25	Current Value of AS2	0~65535	0	-	
15-26	Current Value of AS3	0~65535	0	-	
15-27	Current Value of AS4	0~65535	0	-	
15-28	Current Value of MD1	0~65535	0	-	
15-29	Current Value of MD2	0~65535	0	-	
15-30	Current Value of MD3	0~65535	0	-	
15-31	Current Value of MD4	0~65535	0	-	
15-32	Current Value of TD	0~65535	0	μs	

Chapter 4 Troubleshooting and Maintenance

4.1 Error display and corrective action

4.1.1 Manual Reset and Auto-Reset

Faults which can not be recovered manually			
Display	**content**	**Cause**	**Corrective action**
-OV- 	Voltage too high when stopped	Detection circuit malfunction	Consult with the supplier
-LV- 	Voltage too low when stopped	1. Power voltage too low 2. Pre-charge resistor or fuse burnt out. 3. Detection circuit malfunction	1.Check if the power voltage is correct 2.Replace the pre-charge resistor or the fuse 3.Return the inverter
OH-C 	The inverter is overheated during running	1. The ambient temperature is too high or bad ventilation 2. temperature sensor error or circuit malfunctions	1.Improve ventilation conditions 2. Send the inverter back for repairing
-OH- 	The inverter is overheated when stopped	1. Detection circuit malfunction 2. Ambient temperature too high or bad ventilation	Improve the ventilation conditions, if no result then replace the inverter
EPr 	Current Sensor detection error	Current sensor error or circuit malfunction	Consult with the supplier
COt 	EEPROM problem	Faulty EEPROM	Consult with the supplier
CtEr 	Current Sensor detection error	Current sensor error or circuit malfunction	Consult with the supplier
Faults which can be recovered manually and automatically			
Display	**content**	**Cause**	**Corrective action**
OC-A 	Over-current at acceleration	1.Acceleration time too short 2.The capacity of the motor exceeds the capacity of the inverter 3.Short circuit between the motor coil and the case 4.Short circuit between motor wiring and ground 5.IGBT module damaged	1.Set a longer acceleration time 2.Replace inverter with one that has the same rating as that of the motor 3.Check the motor 4.Check the wiring 5. Consult with the supplier
OC-C 	Over-current at fixed speed	1. Transient load change 2. Transient power change	1. Increase the capacity of the inverter 2.Install inductor on the power Supply input side
OC-d 	Over-current at deceleration	The preset deceleration time is too short.	Set a longer deceleration time
OC-S 	Over current at start	1.Short circuit between the motor coil and the case 2.Short circuit between motor coil and ground 3.the IGBT module damaged	1.Inspect the motor 2.Inspect the wiring 3. Consult with the supplier

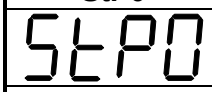
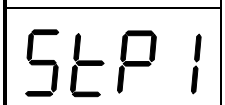
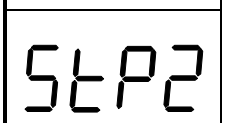
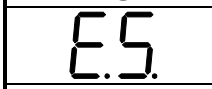
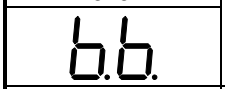
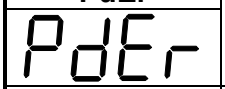
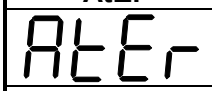
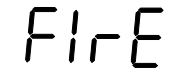
OV-C 	Excessive Voltage during operation/ deceleration	1.Deceleration time setting too short or excessive load inertia 2.Power voltage varies widely (fluctuates)	1.Set a longer deceleration time 2. Add a brake resistor or brake module 3.Add a reactor at the power input side
Err4 	CPU Illegal interrupt	External noise	If it often occurs, please Consult with the supplier.
PF 	Input phase Loss	Abnormal fluctuations in the main circuit voltage	1. Check the main circuit power supply wiring. 2. Check the power supply voltage
ud-C 	Low current detection	Input current< Low current detection level	Set the level according to the actual situation
LF 	Output phase loss	Occurrence of lacking phase at Inverter output side	1.Check Output cables wiring is disconnected or the connection error occurred 2.Determine resistance between the lines 3.Check whether the terminals are loose
Faults which can be recovered manually but not automatically			
Display	**content**	**Cause**	**Corrective action**
OC 	Over-current during stop	Detection circuit malfunction	Consult with the supplier
OL1 	Motor overload	loading too large	Consider increasing the Motor capacity
OL2 	Inverter overload	Excessive Load	Consider increasing the inverter capacity
OL3 	Over torque	1. Load too large 2.the setting of (8-15、8-16) too small	1. Increase the inverter capacity 2. Set(8-15、8-16) as needed
LV-C 	Voltage too low during operation	1.Power voltage too low 2.Power voltage varies widely (fluctuates)	1.Improve power quality 2.Consider adding a reactor at the power input side
OVSP 	Motor rotating too fast	Rotation speed and the set speed value vary widely	1.Load may be too large 2.Check if the set speed is correct.
LIFE1 	The life of the inrush current suppression circuit alarm	Inrush current suppression circuit is damaged	Return the inverter for repair
LIFE2 	The life of Capacitor Control Circuit alarm	Capacitor Control Circuit is damaged	Return the inverter for repair
LIFE3 	Main Circuit Capacitor life expectancy alarm	Capacitor Main Circuit is damaged	Return the inverter for repair

GF	Output side ground Fault	While output is connected to ground , and grounding current flow through the circuit, output of inverter will be stopped. this protect function is set by 08-18	1. heck the motor winding resistance for failures. 2. Check the motor cable for ground short circuits
			

4.1.2Keypad Operation Error Instruction

Display	content	Cause	Corrective action
LOC 	1. Parameter already locked 2.Motor direction locked 3. Parameter password(13 - 07) enabled	1. Attempt to modify frequency parameter while 13-06>0. 2.Attempt to reverse direction when 11- 00=1。 3. Parameter (13 - 07) enabled, set the correct password will show LOC.	1. Adjust 13-06 2. Adjust 11-00
Err1 	Keypad operation error	**1.**Press ▲ or ▼while 00-05/00-06>0 or running at preset speed. **2.**Attempt to modify the Parameter.Can not be modified during operation (refer to the parameter list).	1.The ▲ or▼ is available for modifying the parameter only when 00-05/00-06=0 2. Modify the parameter in STOP mode.
Err2 	Parameter setting error	1. 00-13 is within the range of(11-08 ± 11-11) or (11-09 ± 11-11) or (11-10 ± 11-11) 2.00- 12≦00-13	1. Modify 11-08~11-10 or 11-11 2. Set 00-12>00-13
Err5 	Modification of parameter is not available in communication	1.Control command sent during communication. 2.Attempt to modify the function 09-02 ~ 09-05 during communication	1.Issue enable command before communication 2. Set parameters 09-02 ~ 09-05 function before communication
Err6 	Communication failed	1.Wiring error 2.Communication parameter setting error. 3.Incorrect communication protocol	1. Check hardware and wiring 2. Check Functions (09-00~09- 05).
Err7 	Parameter conflict	1.Attempt to modify the function 13-00/13-08. 2.Voltage and current detection circuit is abnormal.	If reset is not possible, please consult with the supplier.

4.1.3 Special conditions

Display	Fault	Description
StP0 	Zero speed at stop	Occurs when preset frequency <0.1Hz
StP1 	Fail to start directly On power up.	If the inverter is set for external terminal control mode (00-02/00-03=1) and direct start is disabled (07-04=1) The inverter cannot be started and will flash STP1. The run input is active at power-up, refer to descriptions of (07-04).
StP2 	Keypad Stop Operated when inverter in external Control mode.	If the Stop key is pressed while the inverter is set to external control mode (00-02/00-03=1) then'STP2'flashes after stop. Release and re-activate the run contact to restart the inverter.
E.S. 	External Rapid stop	When external rapid stop input is activated the inverter will decelerate to stop and the display will flash with E.S. message.
b.b. 	External base block	When external base block input is activated the inverter stops immediately and then the display will flash with b.b. message.
PdEr 	PID feedback loss	PID feedback loss is detected.
AtEr 	Auto tuninig error	1.Motor nameplate data Input errors. 2. Emergency stop is activated while auto tuning.
FIrE 	Fire Mode	1. Software rev below 1.1, the fire mode functions when 08-17 = 1 2. Software ver 1.1 and above,the firemode functions when 03-00~03-05 =【28】 3. The diplay on the keypad indicates FIrE 4. Under fire mode function, the inverter will run at full speed

4.2 General troubleshooting

Status	Checking point	Remedy
Motor runs in wrong direction	Is the wiring for the output terminals correct?	Wiring must match U, V, and W terminals of the motor.
	Is the wiring for forward and reverse signals correct?	Check for correct wiring.
The motor speed can not be regulated.	Is the wiring for the analog frequency inputs correct?	Check for correct wiring.
	Is the setting of operation mode correct?	Check the operation mode of the operator.
	Is the load too excessive?	Reduce the load.
Motor running speed too high or too low	Check the motor specifications (poles, voltage…) correct?	Confirm the motor specifications.
	Is the gear ratio correct?	Confirm the gear ratio.
	Is the setting of the highest output frequency correct?	Confirm the highest output frequency
Motor speed varies unusually	Is the load too excessive?	Reduce the load.
	Does the load vary excessively?	1.Minimize the variation of the load. 2. Consider increasing the capacities of the inverter and the motor.
	Is the input power erratic or is there a phase loss ?	1. Consider adding an AC reactor at the power input side if using single-phase power.
		2. Check wiring if using three-phase power.
Motor can not run	Is the power connected to the correct L1(L), L2, and L3(N) terminals? is the charging indicator lit ?	1. Is the power applied ? 2. Turn the power OFF and then ON again. 3. Make sure the power voltage is correct. 4. Make sure screws are secured firmly.
	Is there voltage across the output terminals T1, T2, and T3?	Turn the power OFF and then ON again.
	Is overload causing the motor to stall?	Reduce the load so the motor will run.
	Are there any abnormalities in the inverter?	See error descriptions to check wiring and correct if necessary.
	Is there a forward or reverse run command ?	
	Has the analog frequency signal been input?	1.Is analog frequency input signal wiring correct? 2.Is voltage of frequency input correct?
	Is the operation mode setting correct?	Operate through the digital keypad