



RELIABLE AUTOMATION SOLUTION

# EIS SERIES Inverter General Inverter



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# / High Performance

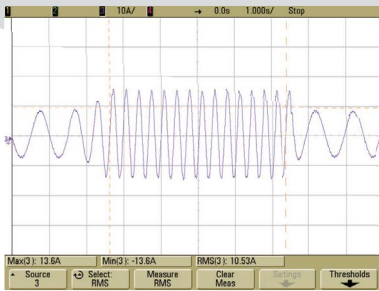
- **More Accurate Motor Auto-tuning**

Accurate rotating and static motor auto-tuning  
Convenient debugging and easy operation

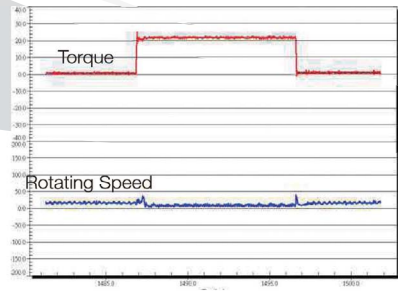
Rotating auto-tuning	Static auto-tuning
Need to separate the load Applied in situation when high control accuracy is needed	Need not separate the load Applied in situation when load is difficult to separate

- **Advanced open loop vector control**

Current, torque and rotating speed waveforms when sudden loading or unloading in asynchronous motor open loop vector control mode with 0.5Hz running frequency and full load.



Current



Torque & Rotating speed

- **Perfect voltage and current control, reducing the fault protection times**

**OC fault**

Adjust the output frequency to avoid overcurrent of the inverter during acceleration

**OV fault**

Adjust the output frequency to avoid overvoltage of the DC bus during deceleration

- **Multiple braking modes and instant stopping**

**Dynamic braking**

- Configure braking units and resistors
- Available on the situation of big inertia load and frequent braking
- Big braking torque and quick braking

**DC braking**

- No need to configure braking units and resistors
- Available on the situation when start the running motor after braking and the situation when keep the moment output after braking to zero speed
- Not available on the situation of big inertia load or instant stopping braking in high speed running

**Flux braking**

- No need to configure braking units and resistors
- Available on the instant stopping situation with big inertia load and no frequent braking
- Not available on the situation of big inertia load and frequent braking (the energy consumed on the stator and its cooling is better than DC braking)

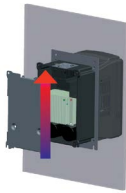
**Short circuit braking**

- No need to configure braking units and resistors, capable of braking quickly
- Applicable to the motors at quick start and stop or restart after braking
- Not applicable to big inertia load and frequent braking

# Multi-Function with Simple Operation

## • Separate Air-duct

The separate air duct prevents the contaminants into the electronic parts/components and greatly improves the protective effect of the inverter, as well as its reliability and service life, to adapt various complicated site environments. It can also facilitate the heat-releasing in control cabinets and the heat-releasing design of the customer.



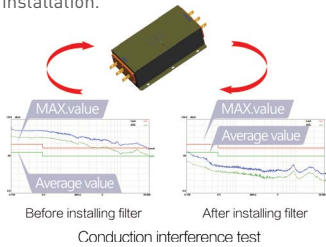
## • Multiple installation modes

0.75~200kW: Wall mounting and flange mounting  
 200~315kW: Wall mounting and floor mounting  
 350~500kW: Floor mounting



## • Standard built-in C3 input filters, optional external C2 filters

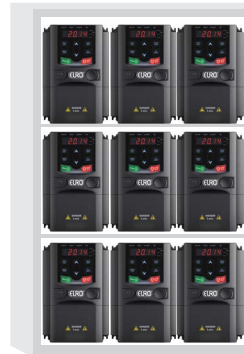
C3 input filter is embedded in the factory to meet different application requirements, save installation space and avoid electromagnetic interference caused by incorrect selection and site installation.



Remarks:  
 C2 filter: EMC performance of the inverter achieves the limited usage requirement in civil environment.  
 C3 filter: EMC performance of the inverter achieves the limited usage requirement in industrial environment.

## • Book structure

Parallel installation  
 Smaller installation space with less cost and beautiful appearance.



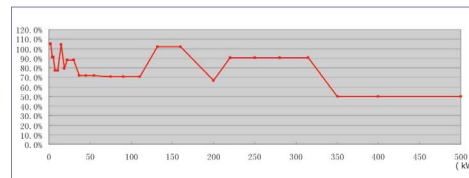
## • The rivet design ensures reliable integration connection

Greener Proper grounding  
 Stronger corrosion-resistance Excellent EMC performance



## • Smaller size

Due to the thermal simulation and advanced modularized design, the size of our product is reduced greatly. The width ratio between EIC Series and EIS Series is shown in the figure below (the Max. percentage is 50%)



## • EIS Series

Membrane keypad design (which can be connected to external keypads) is available for inverters ( $\leq 15\text{kW}$ ); swappable keypads are standard for inverters ( $\geq 18.5\text{kW}$ )



## • Abundant terminals

Terminals	Quantity	Features
Digital input	8 channels	1KHz NPN and PNP
High speed Pulse input	1 channel	50KHz NPN and PNP
Analog input	2 channels	0~10V, 0~20mA, -10V~+10V
Digital output	1 channel	Max. output frequency: 1KHz
High speed Pulse output	1 channel	Max. output frequency: 50KHz
Analog output	2 channels	0~10V, 0~20mA
Relay output	2 channels	3A/250VAC, 1A/30VDC, NO+NC

- High Performance Keypad

External LED keypads are standard for inverters ( $\geq 18.5\text{kW}$ ) to support parameters upload and download, the maximum external length is 200m and the keypads have digital potentiometers; external keypads are optional for inverters ( $\leq 15\text{kW}$ ).



External keypad



LCD keypad

The optional external LCD keypad supports parameters loading and unloading with English.

- Available on DC power supply

Reduce the occupied space and decrease the cost of the customer.

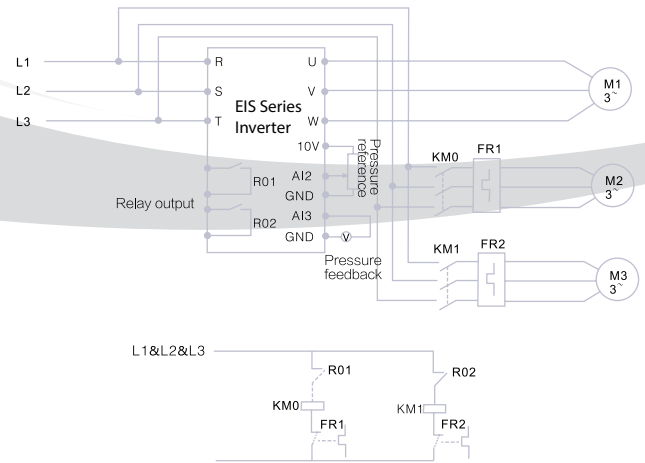


- Embedded braking units of 0.75-30kW inverters

Reduce the occupied space and decrease the cost of the customer.

other products	Embedded Braking Unit		
EIS Series	Embedded Braking Unit		
	0.0.75	15G/18P	30G/37P

- Function of water supply



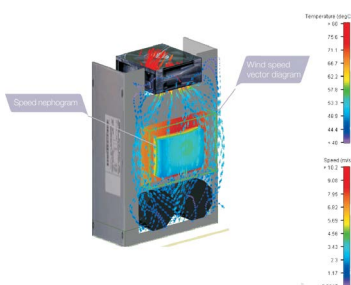
- Supporting common DC bus

Reduce the power lost on DBR  
Note the impact current and the capacity of the input AC system

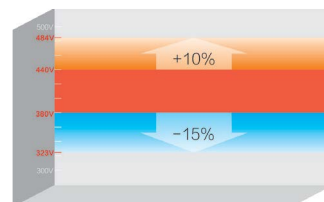


In the diagram above, M2 and M3 are auxiliary motors which are controlled by R01 and R02. PID constant-pressure automatic control system is formed by the inverter through pressure feedback. The pressure reference can apply analog or keypad input. Modbus RS-485 communication is also supported.

- Advanced thermal technology makes exact thermal design



- Wide voltage range meets the requirement of grid environment



AC 3PH:380V(-15%)-440V(+10%) Wide voltage range



# Applications



Air compressor



Oil industry



Warming and water supply



Plastic machine

# Selection

Type designation key

**EIS - 3 110 K G / 132 K P**

A                      B                      C                      D                      E                      C                      D                      F

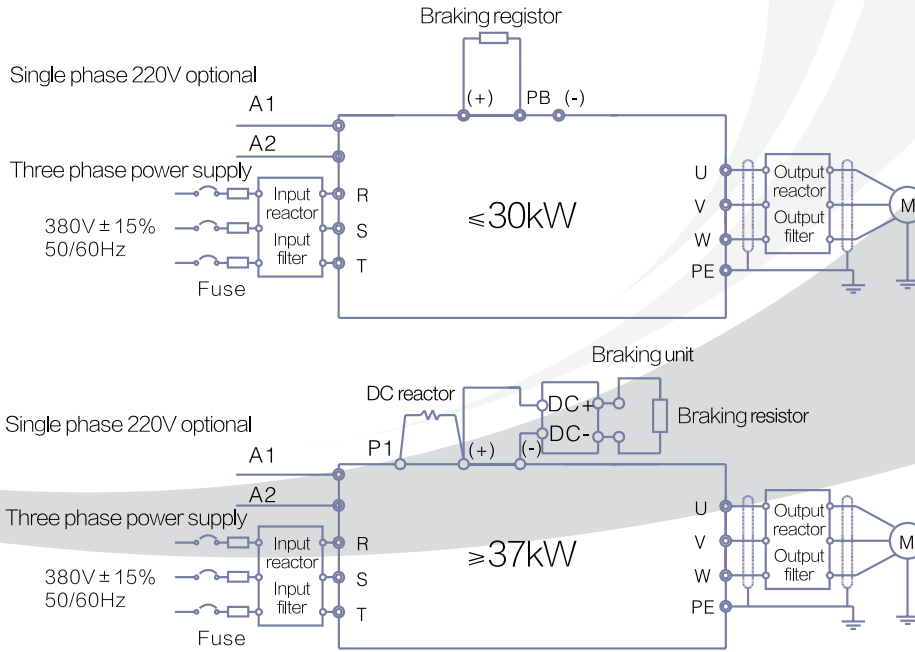
Sign	Description of the sign	Specific Contents
A	Series number	
B	Input voltage	2 : AC 3 PH 220V (-15%) - 220V (+10%) 3 : AC 3 PH 380V (-15%) - 440V (+10%) 5 : AC 3 PH 520V (-15%) - 690V (+10%)
C,D	Capacity	0.75kW : 007 15kW : 150 110kW : 110K
E,F		G : Constant Torque Load P : Variable Torque Load

# Technical Specifications

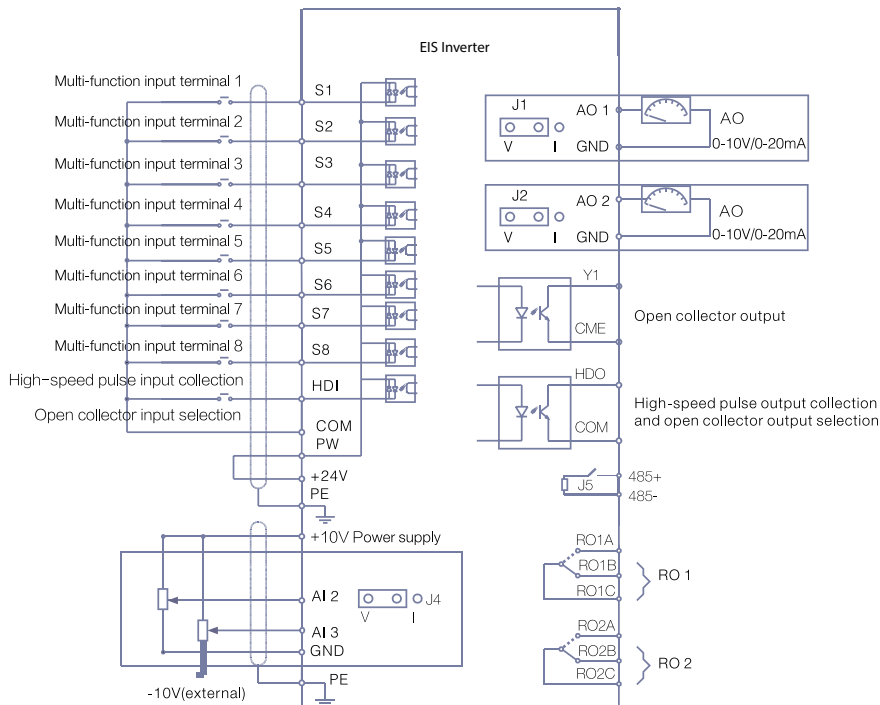
	Function	Illustration
Input	Input voltage (V)	AC 3PH 400V±15%
	Input current (A)	Refer to the rated value
	Input frequency (Hz)	50Hz or 60Hz Allowed range: 47~63Hz
Output	Output voltage (V)	0~input voltage
	Output frequency (Hz)	0~400Hz
Technical control feature	Control mode	V/F SVC
	Motor type	Asynchronous motor
	Speed ratio	Asynchronous motor 1:100
	Overload capability	G type: 150% of rated current: 1 minute 180% of rated current: 10 seconds 200% of rated current: 1 second P type: 120% of rated current: 60 second
Running control feature	Frequency setting	Digital setting, analog setting, pulse frequency setting, multi-step speed running setting, simple PLC setting, PID setting, MODBUS communication setting, PROFIBUS communication setting. Realize the shifting between the set combination and set channel.
	Auto voltage adjustment	Keep a stable voltage automatically when the grid voltage transients
	Fault protection	Provide over 30 fault protection functions: overcurrent, overvoltage, undervoltage, overheating, phase loss and overload, etc.
	Speed tracking	Restart the rotating motor smoothly
Peripheral interface	Terminal analog input resolution	≤10mV
	Terminal switch input resolution	≤ 2ms
	Analog input	2 channels (AI1, AI2) 0~10V/0~20mA and 1 channel (AI3) -10~10V
	Analog output	2 channels (AO1, AO2) 0~10V /0~20mA
	Digital input	8 channels common input, the Max. frequency: 1kHz 1 channel high speed input, the Max. frequency: 50kHz
	Digital output	1 channel high speed pulse output, the Max. frequency: 50kHz; 1 channel Y terminal open collector pole output
	Relay output	2 channels programmable relay output R01A NO, R01B NC, R01C common terminal R02A NO, R02B NC, R02C common terminal Contactor capacity: 3A/250VAC, 1A/30VDC
Others	Mountable method	Wall, flange and floor mountable
	Temperature of the running environment	-10~50°C , derate above 40°C
	Ingress protection	IP20
	Cooling	Air-cooling
	Braking unit	Built-in braking unit for below 300G/370P (including 300G/370P) Optional External braking unit for others
	Braking resister	External braking
	EMC filter	Built-in C3 filter Optional external filter

# Standard Wiring

Wiring diagram of the main circuit



Wiring diagram of the control board





# Type Selection

## Power ratings and dimension

Inverter model	Rated output power (kW)	Input current (A)	Rated output current (A)	Gross weight (kg)	Dimension (mm)
3-phase 220VAC±15%					
EIS-2007G	0.75	5	4.5	4.1kg	360x250x265
EIS-2015G	1.5	7.7	7		
EIS-2022G	2.2	11	10		
EIS-2037G	3.7	17	16	7.4kg	445x295x320
EIS-2055G	5.5	21	20		
EIS-2075G	7.5	31	30		
EIS-2110G	11	43	42	11kg	550x375x375
EIS-2150G	15	56	55		
EIS-2185G	18.5	71	70	32kg	695x410x470
EIS-2200G	22	81	80		
EIS-2300G	30	112	110		
EIS-2370G	37	132	130	67kg	760x445x580
EIS-2450G	45	163	160		
EIS-2550G	55	181	190		
3-phase 380VAC±15%					
EIS-3007G	0.75	3.4	2.5	2.5kg	275 x205 x235
EIS-3015G	1.5	5.0	3.7		
EIS-3022G	2.2	5.8	5		
EIS-3037G/055P	4/5.5	13.5/19.5	9.5/14	4.1kg	360 x250 x265
EIS-3055G/075P	5.5/7.5	19.5/25	14/18.5		
EIS-3075G/110P	7.5/11	25/32	18.5/25	7.4kg	445 x295 x320
EIS-3110G/150P	11/15	32/40	25/32		
EIS-3150G/185P	15/18.5	40/47	32/38		
EIS-3185G/220P	18.5/22	47/56	38/45	9kg	460 x340 x330
EIS-3220G/300P	22/30	56/70	45/60		
EIS-3300G/370P	30/37	70/80	60/75	11kg	550 x375x375
EIS-3370G/450P	37/45	80/94	75/92		
EIS-3450G/550P	45/55	94/128	92/115		
EIS-3550G/750P	55/75	128/160	115/150	32kg	695 x410x470
EIS-3750G/900P	75/90	160/190	150/180		
EIS-3900G/110KP	90/110	190/225	180/215		
EIS-3110KG/132KP	110/132	225/265	215/260	67kg	760 x445 x580
EIS-3132KG/160KP	132/160	265/310	260/305		
EIS-3160KG/200KP	160/200	310/385	305/380		
EIS-3200KG/220KP	200/220	385/430	380/425	110kg	971 x631 x565
EIS-3220KG/250KP	220/250	430/485	425/480		
EIS-3250KG/280KP	250/280	485/545	480/530		
EIS-3280KG/315KP	280/315	545/610	530/600	165kg	1086x826x595
EIS-3315KG/350KP	315/350	610/625	600/650		
EIS-3350KG/400KP	350/400	625/715	650/720		
EIS-3400KG	400	715	720	450kg	1850x840x820
EIS-3500KG	500	890	860		

# Installation Dimensions

## Wall mounting

(unit: mm)

Model		W1	W2	H1	H2	D1	Installation holes
3-phase 220VAC series	0.75kW~2.2kW	146	131	256	243.5	181	6
	4kW~7.5kW	170	151	320	303.5	216	6
	11kW~15kW	255	237	407	384	245	7
	18.5kW~30kW	270	130	555	540	325	7
	37kW~55kW	325	200	680	661	365	9.5
3-phase 380VAC series	0.75kW~2.2kW	126	115	186	175	174.5	5
	4kW~5.5kW	146	131	256	243.5	181	6
	7.5kW~15kW	170	151	320	303.5	216	6
	18.5kW	230	210	342	311	216	6
	22kW~30kW	255	237	407	384	245	7
	37kW~55kW	270	130	555	540	325	7
	75kW~110kW	325	200	680	661	365	9.5
	132kW~200kW	500	180	870	850	360	11
220kW~315kW	680	230	960	926	379.5	13	

## Flange mounting

(unit: mm)

Inverter model		W1	W1	W3	W4	H1	H2	H3	H4	D1	D2	Installation holes
3-phase 220VAC series	0.75kW~2.2kW	170.2	131	150	9.5	292	276	260	6	167	84.5	6
	4kW~7.5kW	191.2	151	174	11.5	370	351	324	15	196.3	113	6
	11kW~15kW	275	237	259	11	445	426	404	10	245	119	7
	18.5kW~30kW	270	130	261	11	445	426	404	10	245	119	7
	37kW~55kW	325	200	317	58.5	680	661	626	23	363	182	9.5
3-phase 380VAC series	0.75kW~2.2kW	150.2	115	130	7.5	234	220	190	13.5	155	65.5	5
	4kW~5.5kW	170.2	131	150	9.5	292	276	260	6	167	84.5	6
	7.5kW~15kW	191.2	151	174	11.5	370	351	324	15	196.3	113	6
	18.5kW	250	210	234	12	375	356	334	10	216	108	6
	22kW~30kW	275	237	259	11	445	426	404	10	245	119	7
	37kW~55kW	270	130	261	11	445	426	404	10	245	119	7
	75kW~110kW	325	200	317	58.5	680	661	626	23	363	182	9.5
	132kW~200kW	500	180	480	60	870	850	796	37	358	178.5	11

## Floor mounting

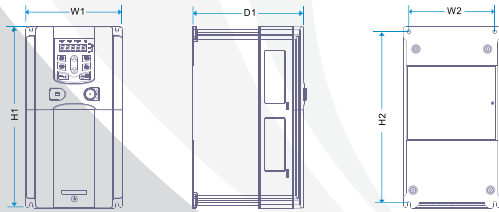
(unit: mm)

Inverter model	W1	W1	W3	W4	H1	H2	D1	D2	Installation holes
220kW~315W	750	230	714	680	1410	1390	380	150	13\12
350kW~500kW	620	230	553	-	1700	1678	560	240	22\12

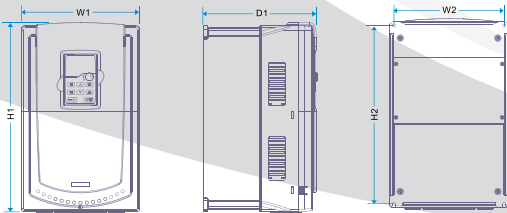
# Installation Diagram

- 3-phase 220VAC series  
Wall Mounting for 0.75-55kW Inverters

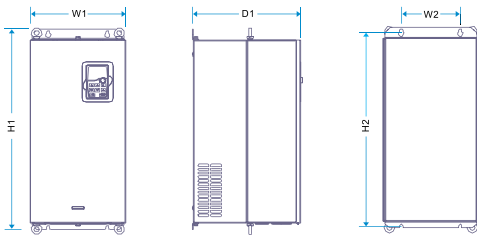
0.75-7.5kW Installation diagram



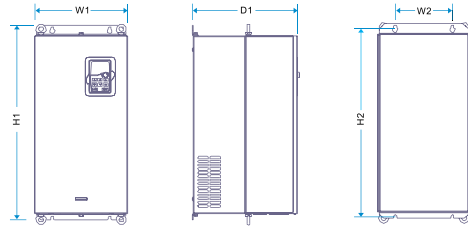
11-15kW Installation diagram



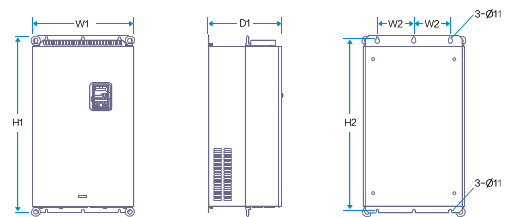
18.5kW Installation diagram



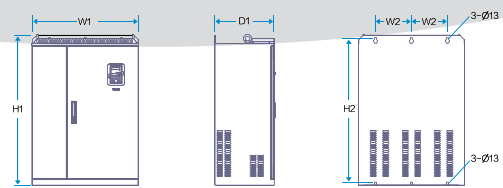
37-110kW Wall mounting installation diagram



132-200kW Wall mounting installation diagram

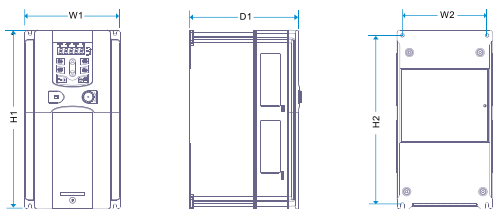


220-350kW Wall mounting installation diagram

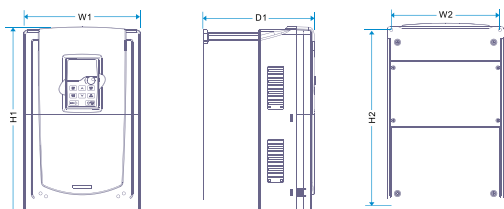


- 3-phase 380VAC series  
Wall Mounting for 0.75-315kW Inverters

0.75-15kW Wall mounting installation diagram

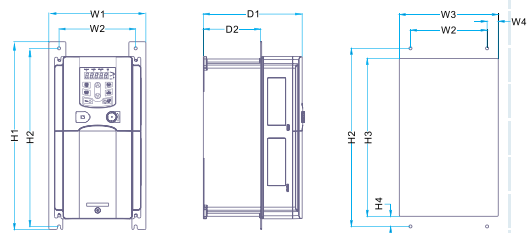


18.5-30kW Wall mounting installation diagram

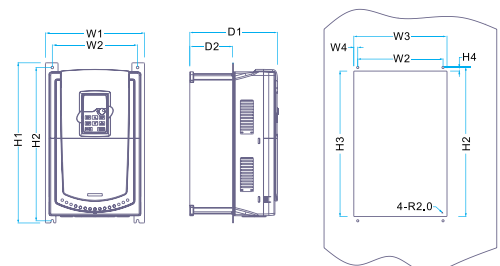


- 3-phase 220VAC series  
Flange Mounting for 0.75-55kW Inverters

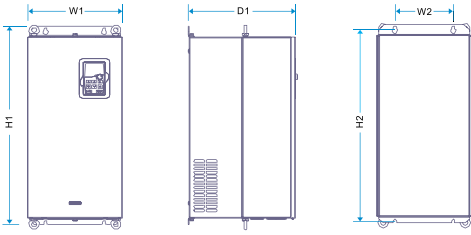
0.75-7.5kW Flange mounting installation diagram



11-15kW Flange mounting installation diagram

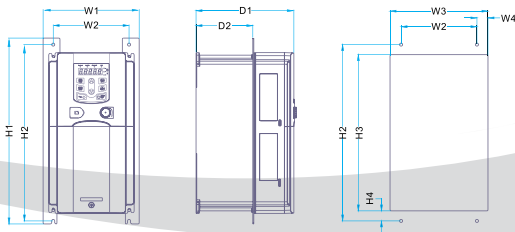


## 18.5-55kW Flange mounting installation diagram

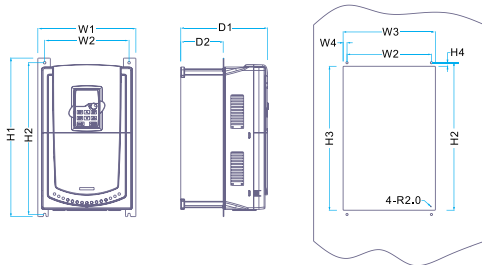


- 3-phase 380VAC series  
Flange Mounting for 0.75-200kW Inverters

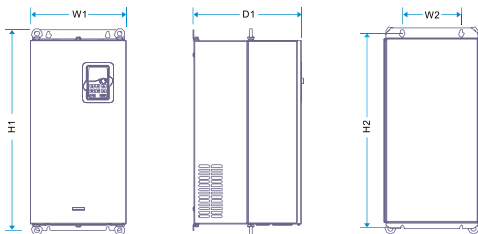
## 0.75-15kW Flange mounting installation diagram



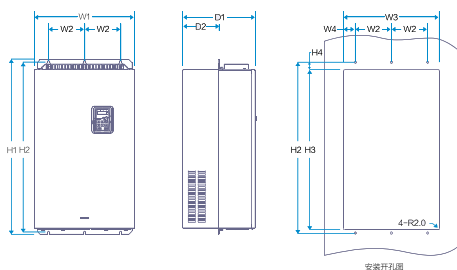
## 18.5-30kW Flange mounting installation diagram



## 37-110kW Flange mounting installation diagram

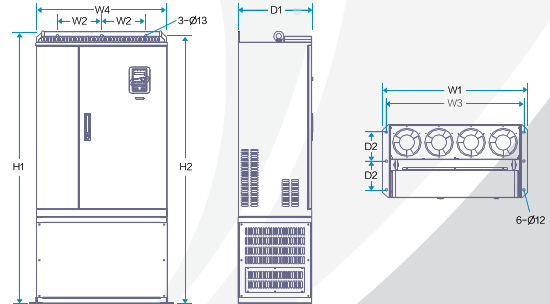


## 132-200kW Flange mounting installation diagram

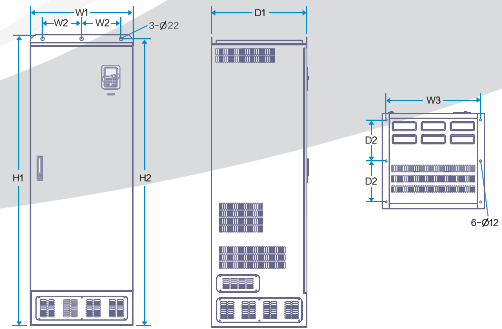


- Floor Mounting for 200-500kW Inverters

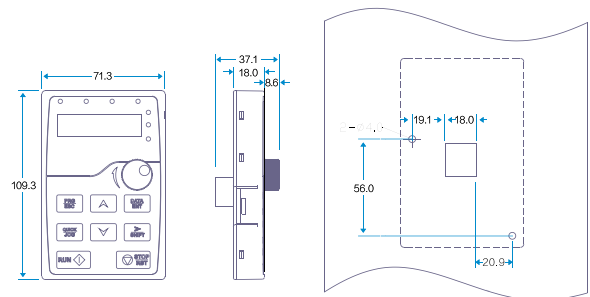
## 220-315kW Floor mounting installation diagram



## 350-500kW Floor mounting installation diagram



- Dimensions for Keypad



# Optional Parts

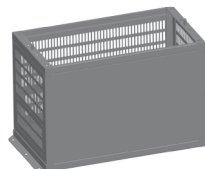
- Flange mounting panel

Needed for 007G-300G/370P inverter  
not needed for 370G/400P-200KG/220KP



- Installation base

Only optional in 220KG/250KP-315KG/350KP inverters.  
Its bases can be built in an input AC (or DC) reactor or an output AC reactor



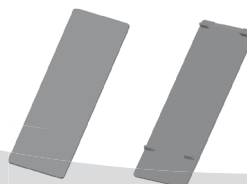
- Installation bracket for the keypad

Installation bracket or M3 screw can be used in the installation of external keypad.  
The bracket of 007G/300G/370P inverters is standard.  
The bracket of 370G/450P/500KG inverters is optional.



- Heat-releasing hole

Inverter needs to derate when selecting a cover consult with the Euro technicians for the detailed information.



- LCD keypad

10 rows of high definition displaying  
Compatible with the LED keypad



- AC single-phase 220V input auxiliary power supply

For more convenient debugging

- Filters

	Inverter model	Input filter	Output filter
EIS Series 3-phase 380VAC Series	G:0.75—2.2kW	FLT-P04006L-B	FLT-L04006L-B
	G:4—5.5kW P:5.5—7.5kW	FLT-P04016L-B	FLT-L04016L-B
	G:7.5—11kW P:11—15kW	FLT-P04032L-B	FLT-L04032L-B
	G:15—18.5kW P:18.5—22kW	FLT-P04045L-B	FLT-L04045L-B
	G:22—30kW P:30—37kW	FLT-P04065L-B	FLT-L04065L-B
	G:37—45kW P:45—55kW	FLT-P04100L-B	FLT-L04100L-B
	G:55—75kW P:75—90kW	FLT-P04150L-B	FLT-L04150L-B
	G:90kW P:110kW	FLT-P04200L-B	FLT-L04200L-B
	G:110—132kW P:132—160kW	FLT-P04250L-B	FLT-L04250L-B
	G:160—200kW P:185—220kW	FLT-P04400L-B	FLT-L04400L-B
	G:220—280kW P:250—315kW	FLT-P04600L-B	FLT-L04600L-B
	G:315—400kW P:350—400kW	FLT-P04800L-B	FLT-L04800L-B
G:500kW	FLT-P041000L-B	FLT-L041000L-B	

## • Reactor

The inverters of 370G/450P and above can be connected with external DC reactor. The reactor can improve the power factor and avoid damage to the rectifier bridge caused by overcurrent and damage to the rectifier circuit by harmonic

Inverter model	Input reactor	DC reactor	Output reactor
EIS-3007G	ACL2-1R5-4	/	OCL2-1R5-4
EIS-3015G	ACL2-1R5-4	/	OCL2-1R5-4
EIS-3022G	ACL2-2R2-4	/	OCL2-2R2-4
EIS-3037G/055P	ACL2-004-4	/	OCL2-004-4
EIS-3055G/075P	ACL2-5R5-4	/	OCL2-5R5-4
EIS-3075G/110P	ACL2-7R5-4	/	OCL2-7R5-4
EIS-3110G/150P	ACL2-011-4	/	OCL2-011-4
EIS-3150G/185P	ACL2-015-4	/	OCL2-015-4
EIS-3185G/220P	ACL2-018-4	/	OCL2-018-4
EIS-3220G/300P	ACL2-022-4	/	OCL2-022-4
EIS-3300G/370P	ACL2-030-4	/	OCL2-030-4
EIS-3370G/450P	ACL2-037-4	DCL2-037-4	OCL2-037-4
EIS-3450G/550P	ACL2-045-4	DCL2-045-4	OCL2-045-4
EIS-3550G/750P	ACL2-055-4	DCL2-055-4	OCL2-055-4
EIS-3750G/900P	ACL2-075-4	DCL2-075-4	OCL2-075-4
EIS-3900G/110KP	ACL2-090-4	DCL2-090-4	OCL2-090-4
EIS-3110KG/132KP	ACL2-110-4	DCL2-110-4	OCL2-110-4
EIS-3132KG/160KP	ACL2-132-4	DCL2-132-4	OCL2-132-4
EIS-3160KG/185KP	ACL2-160-4	DCL2-160-4	OCL2-160-4
EIS-3185KG/200KP	ACL2-200-4	DCL2-200-4	OCL2-200-4
EIS-3200KG/220KP	ACL2-200-4	DCL2-200-4	OCL2-200-4
EIS-3220KG/250KP	ACL2-250-4	DCL2-250-4	OCL2-250-4
EIS-3250KG/280KP	ACL2-250-4	DCL2-250-4	OCL2-250-4
EIS-3280KG/315KP	ACL2-280-4	DCL2-280-4	OCL2-280-4
EIS-3315KG/350KP	ACL2-315-4	DCL2-315-4	OCL2-315-4
EIS-3350KG/400KP	standard configuration	DCL2-350-4	OCL2-350-4
EIS-3400KG	standard configuration	DCL2-400-4	OCL2-400-4
EIS-3500KG	standard configuration	DCL2-500-4	OCL2-500-4



## • Braking system

The 380V inverters <300G/370P and 220V inverters <150G are build-in braking unit for standard, the others are external braking unit for optional, please choosing the resistor and power of braking resistor for site situation (require of braking torque and amount). Braking resistor can increase braking torque of inverter, in the table it designs the resistor power according to 100% braking torque, 10% braking count, 50% braking count, 80% braking count; and customers can choose braking system according to specific process and work condition.

Inverter model	Braking unit model	100% braking torque fit braking resistors ( $\Omega$ )	Power of braking resistor(kW) (10% braking count)	Power of braking resistor(kW) (50% braking count)	Power of braking resistor(kW) (80% braking count)	Allowing minimum braking resistor( $\Omega$ )
EIS-3007G	built-in braking unit	653	0.1	0.6	0.9	240
EIS-3015G		326	0.23	1.1	1.8	170
EIS-3022G		222	0.33	1.7	2.6	130
EIS-3037G/055P		122	0.6	3	4.8	80
EIS-3055G/075P		89	0.75	4.1	6.6	60
EIS-3075G/110P		65	1.1	5.6	9	47
EIS-3110G/150P		44	1.7	8.3	13.2	31
EIS-3150G/185P		32	2	11	18	23
EIS-3185G/220P		27	3	14	22	19
EIS-3220G/300P		22	3	17	26	17
EIS-3300G/370P		16	5	23	36	17
EIS-3370G/450P		DBU100H-060-4	13	6	28	44
EIS-3450G/550P	DBU100H-110-4	10	7	34	54	6.4
EIS-3550G/750P		8	8	41	66	
EIS-3750G/900P		6.5	11	56	90	
EIS-3900G/110KP	DBU100H-160-4	5.4	14	68	108	4.4
EIS-3110KG/132KP		4.5	17	83	132	
EIS-3132KG/160KP	DBU100H-220-4	3.7	20	99	158	3.2
EIS-3160KG/185KP	DBU100H-320-4	3.1	24	120	192	2.2
EIS-3185KG/200KP		2.8	28	139	222	
EIS-3200KG/220KP		2.5	30	150	240	
EIS-3220KG/250KP	DBU100H-400-4	2.2	33	165	264	1.8
EIS-3250KG/280KP		2.0	38	188	300	
EIS-3280KG/315KP	Two DBU100H-320-4	3.6*2	21*2	105*2	168*2	2.2*2
EIS-3315KG/350KP		3.2*2	24*2	118*2	189*2	
EIS-3350KG/400KP		2.8*2	27*2	132*2	210*2	
EIS-3400KG	Two DBU100H-400-4	2.4*2	30*2	150*2	240*2	1.8*2
EIS-3500KG		2*2	38*2	186*2	300*2	



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