

# WN90 系列



WN90系列多功能高性能矢量变频器

Vector Frequency Converter



安徽皖南电机股份有限公司  
Anhui Wannan Electric Machine Co., Ltd.

## Technical Specification:

Item		WN90
Basic function	Control Mode	V/F control Sensorless flux vector control (SVC) (Above 3.7KW) Close-loop vector control (FVC) (Above 3.7KW)
	Maximum frequency	0~600Hz
	Carrier frequency	0.5kHz~16kHz The carrier frequency is automatically adjusted based on the load features.
	Input frequency resolution	Digital setting: 0.01Hz Analog setting: Maximum frequency x 0.025%
	Start torque	G Type: 0.5Hz/150% (SVC); P Type: 0.5Hz/100%
	Speed range	1: 100 (SVC)
	Speed stability accuracy	±0.5% (SVC)
	Overload capacity	G Type: 60s for 150% of the rated current, 3s for 180% of the rated current. P Type: 60s for 120% of the rated current, 3s for 150% of the rated current.
	Torque boost	Auto-boost; Customized boost: 0.1%~30.0%
	V/F Curve	Straight-line V/F curve Multi-point V/F curve N-power V/F curve (1.2-power, 1.4-power, 1.6-power, 1.8-power, square)
	V/F separation	2 types: complete separation; half separation
	Ramp Mode	Straight-line ramp. Four groups of acceleration/deceleration time with the range of 0.00'6500.0s
	DC braking	DC braking frequency: 0.00Hz~Maximum frequency Braking time: 0.0s~36.0s Braking action current value: 0.0%~100.0%
	JOG control	JOG frequency range: 0.00Hz~50.00Hz。 JOG acceleration/deceleration time: 0.0s~6500.0s。
	Simple PLC, Multiple preset speeds	It implements up to 16 speeds via the simple PLC function or combination of terminal states
	Onboard PID	It realizes process-controlled closed loop control system easily
	Auto voltage regulation (AV.)	It can keep constant output voltage automatically when the mains voltage changes
	Overvoltage/overcurrent stall control	The current and voltage are limited automatically during the running process so as to avoid frequent tripping due to over voltage/over current
	Rapid current limit	It helps to avoid frequent over current faults of the AC drive.
	Torque limit and control	It can limit the torque automatically and prevent frequent over current tripping during the running process. Torque control can be implemented in the FVC mode.

Item		WN90
Individualized functions	High performance	Control of asynchronous motor are implemented through the high-performance current vector control technology
	Rapid dip ride through	The load feedback energy compensates the voltage reduction so that the AC drive can continue to run for a short time
	Rapid current limit	It helps to avoid frequent over current faults of the AC drive.
	Timing control	Timing range: 0.0Min~6500.0Min
	Communication methods	R S - 4 8 5
Running	Command source	Operation panel/Control terminals/Serial communication port You can perform switchover between these sources in various ways.
	Frequency source	There are ten frequency sources. Digital setting, analog voltage setting, analog current setting, pulse setting, serial port setting. You can perform switchover in various ways.
	Auxiliary frequency source	There are ten auxiliary frequency sources. It can implement fine tuning of auxiliary frequency and frequency synthesis.
	Input terminal	Standard: 4 digital input terminals ( Below 5.5KW ) /6 digital input terminals ( Above 7.5KW ) ; 1 analog input terminal ( Below 5.5KW ) /2 analog input terminals ( Above 7.5KW ) ; 1 voltage input ( only support for 0~10V, above 7.5KW ), 1 voltage input(0~10V) or current input ( 4~20mA )
	Output terminal	1 High-speed pulse output terminal (Open-collector) ( Above 3.7KW ) 1 replay output terminal ( Below 5.5KW ) /2 replay output terminals ( Above 7.5KW ) 1 analog output terminal ( 3.7KW~5.5KW ) /2 analog output terminal ( Above 7.5KW ), Support for 4~20mA current output or 0~10V voltage output
operation panel	LED display	It displays the parameters
	Key locking and function selection	It can lock the keys partially or completely and define the function range of some keys so as to prevent mal-function.
	Protection mode	Motor short-circuit detection at power-on, input/output phase loss protection, over current protection, over voltage protection, under voltage protection, overheat protection and overload protection
Environment	Installation location	Indoor, free from direct sunlight, dust, corrosive gas, combustible gas, oil smoke, vapor, drip or salt.
	Altitude	Lower than 1000m
	Ambient temperature	-10℃~+40℃ ( de-rated if the ambient temperature is between 40℃~50℃ )
	Humidity	Less than 95%RH, without condensing
	Vibration	Less than 5.9m/s <sup>2</sup> ( 0.6g )
	Storage temperature	-20℃~+60℃

Specification

Item no.	Power (kW)	Rated input current (A)	Rated output current (A)	Recommend Motor (kW)
----------	------------	-------------------------	--------------------------	----------------------

Voltage: 1PH AC220V ± 15%

WN90-0.4G-2	0.4	5.4	2.5	0.4
WN90-0.75G-2	0.75	7.2	5	0.75
WN90-1.5G-2	1.5	10	7	1.5
WN90-2.2G-2	2.2	16	11	2.2
WN90-3.7G-2	3.7	17	16.5	3.7
WN90-5.5G-2	5.5	26	25	5.5
WN90-7.5G-2	7.5	35	32	7.5

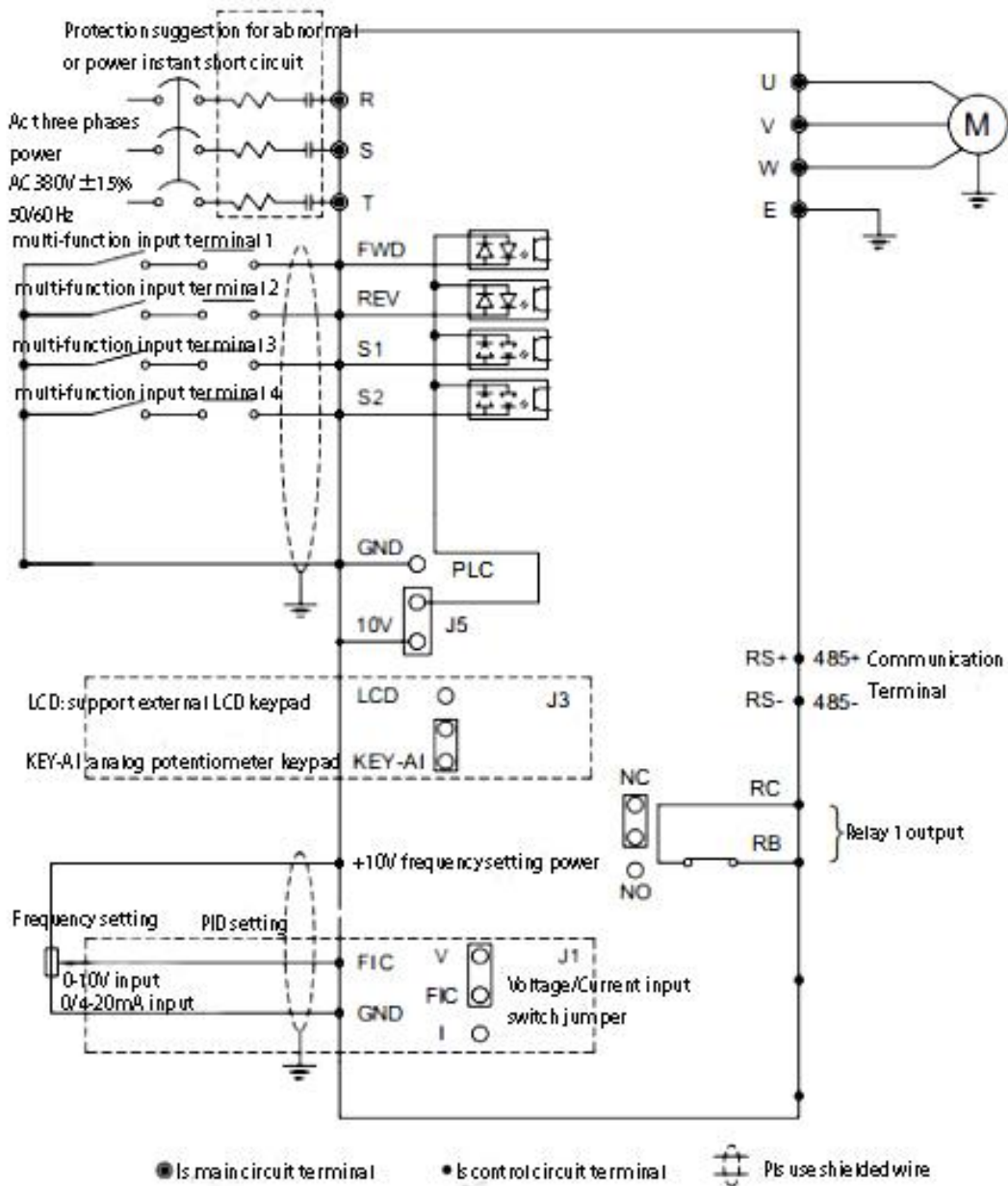
Item no.	Power (kW)	Rated input current (A)	Rated output current (A)	Recommend Motor (kW)
----------	------------	-------------------------	--------------------------	----------------------

Voltage: 3PH AC380V ± 15%

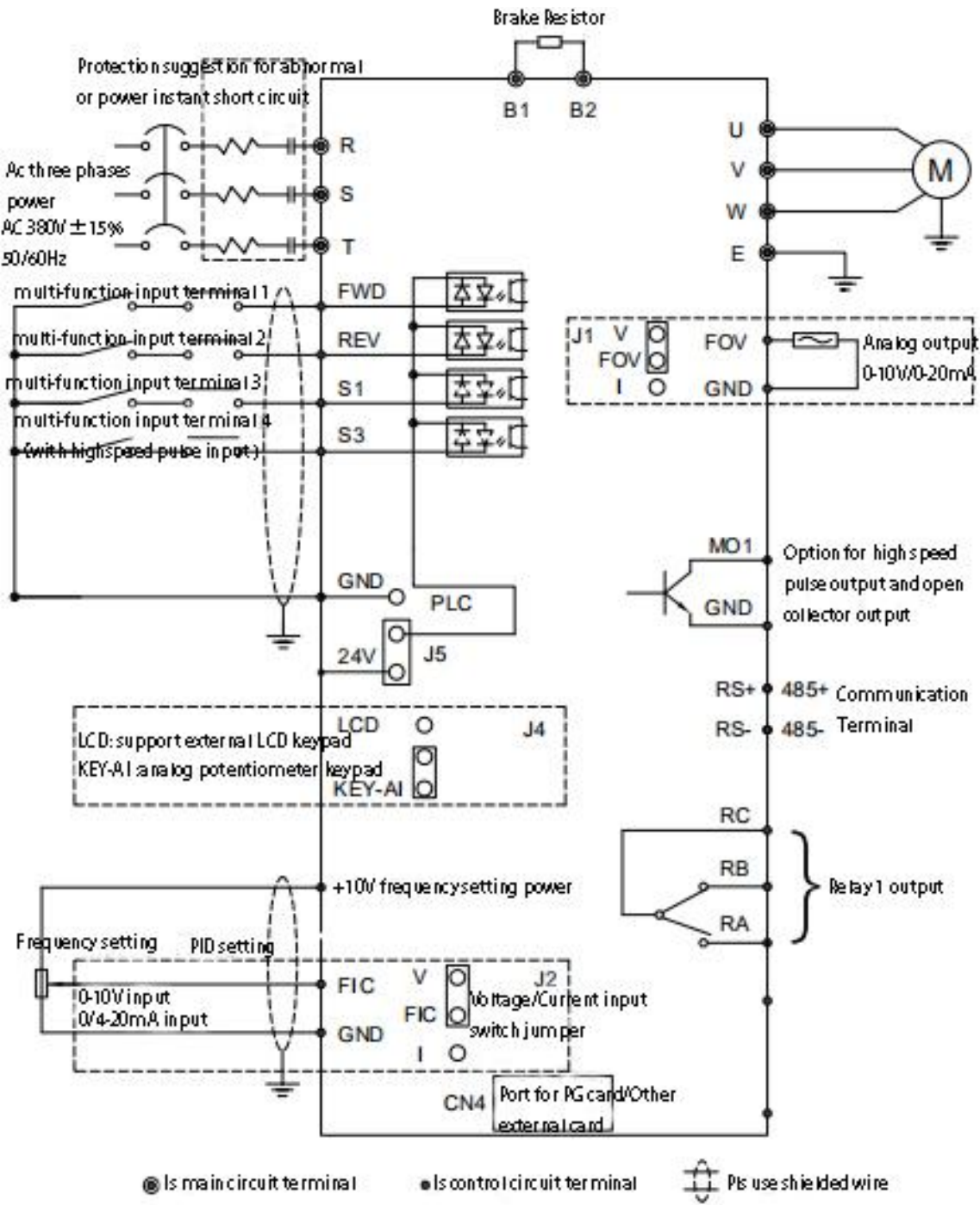
WN90-0.4G-4	0.4	3.4	1.2	0.4
WN90-0.75G-4	0.75	3.8	2.5	0.75
WN90-1.5G-4	1.5	5	3.7	1.5
WN90-2.2G-4	2.2	5.8	5	2.2
WN90-3.7G/5.5P-4	3.7/5.5	10/15	9/13	3.7/5.5
WN90-5.5G/7.5P-4	5.5/7.5	15/20	13/17	5.5/7.5
WN90-7.5G/11P-4	7.5/11	20/26	17/25	7.5/11
WN90-11G/15P-4	11/15	26/35	25/32	11/15
WN90-15G/18.5P-4	15/18.5	35/38	32/37	15/18.5
WN90-18.5G/22P-4	18.5/22	38/46	37/45	18.5/22
WN90-22G/30P-4	22/30	46/62	45/60	22/30
WN90-30G/37P-4	30/37	62/76	60/75	30/37
WN90-37G/45P-4	37/45	76/90	75/90	37/45
WN90-45G/55P-4	45/55	92/113	90/110	45/55
WN90-55G-4	55	113	110	55
WN90-75P-4	75	157	150	75
WN90-75G/90P-4	75/90	157/180	150/176	75/90
WN90-90G/110P-4	90/110	180/214	176/210	90/110
WN90-110G/132P-4	110/132	214/256	210/253	110/132
WN90-132G/160P-4	132/160	256/307	253/300	132/160
WN90-160G/185P-4	160/185	307/355	300/340	160/185
WN90-185G/200P-4	185/200	355/385	340/380	185/200
WN90-200G/220P-4	200/220	385/430	380/420	200/220
WN90-220G/250P-4	220/250	430/475	420/470	220/250
WN90-250G/280P-4	250/280	475/525	470/520	250/280
WN90-280G/315P-4	280/315	525/610	520/600	280/315
WN90-315G/350P-4	315/350	610/665	600/640	315/350
WN90-350G/400P-4	350/400	665/700	640/690	350/400
WN90-400G/450P-4	400/450	700/800	690/790	400/450
WN90-450G/500P-4	450/500	800/865	790/860	450/500
WN90-500G/560P-4	500/560	835/920	860/950	500/560
WN90-560G/630P-4	560/630	920/1050	950/1100	560/630
WN90-630G/710P-4	630/710	1050/1126	1100/1280	630/710
WN90-710G/800P-4	710/800	1126/1460	1280/1380	710/800
WN90-800G/900P-4	800/900	1460/1640	1380/1640	800/900
WN90-900G/1000P-4	900/1000	1640/1800	1640/1720	900/1000
WN90-1000G-4	1000	1800	1720	1000

## Typical Wiring Diagram

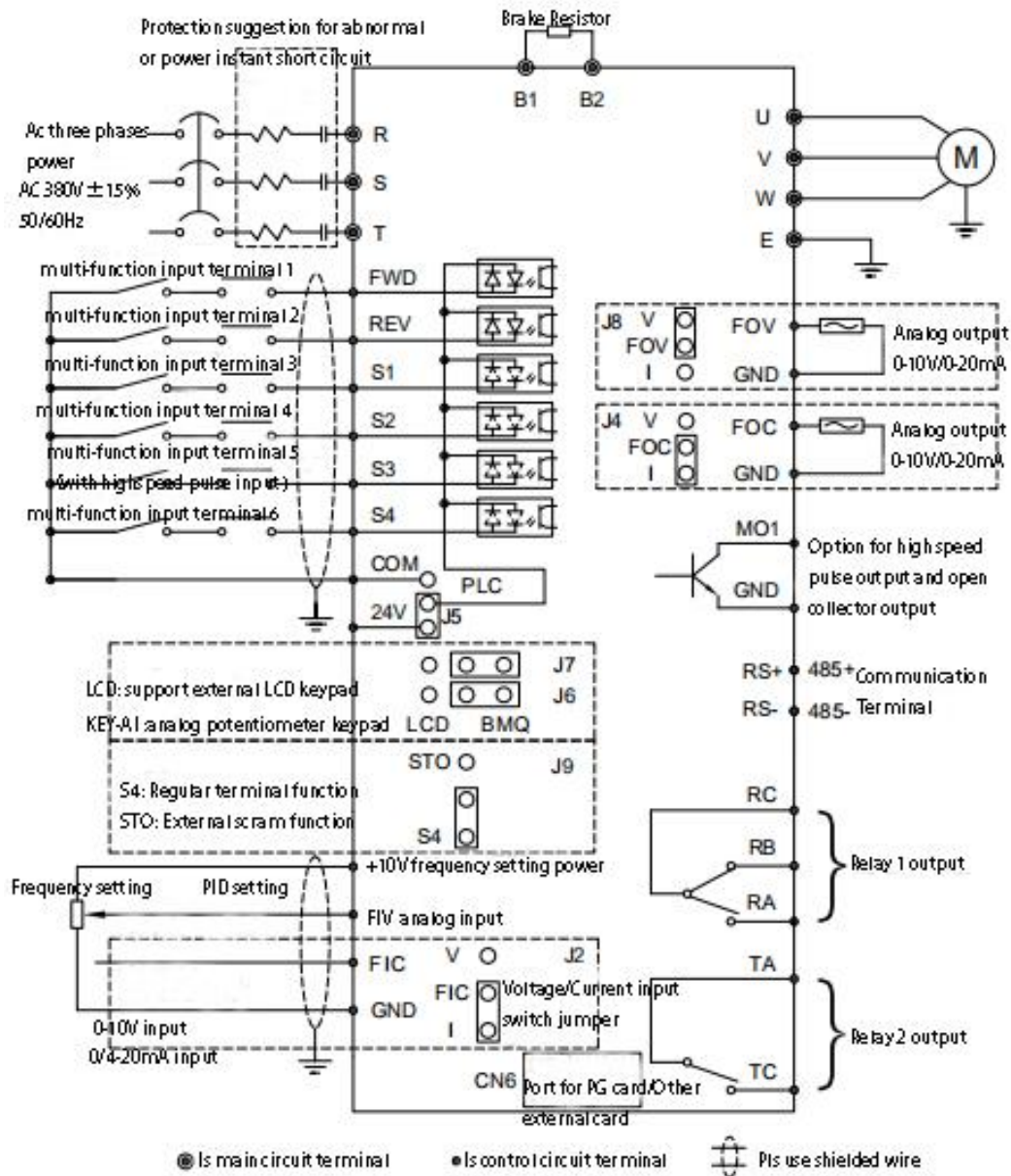
1) 1PH/220V 0.4-2.2kW & 3PH/380V 0.4-2.2kW(V/F control)



2) 1PH/220V 0.4-3.7kW & 3PH/380V 0.4-5.5kW

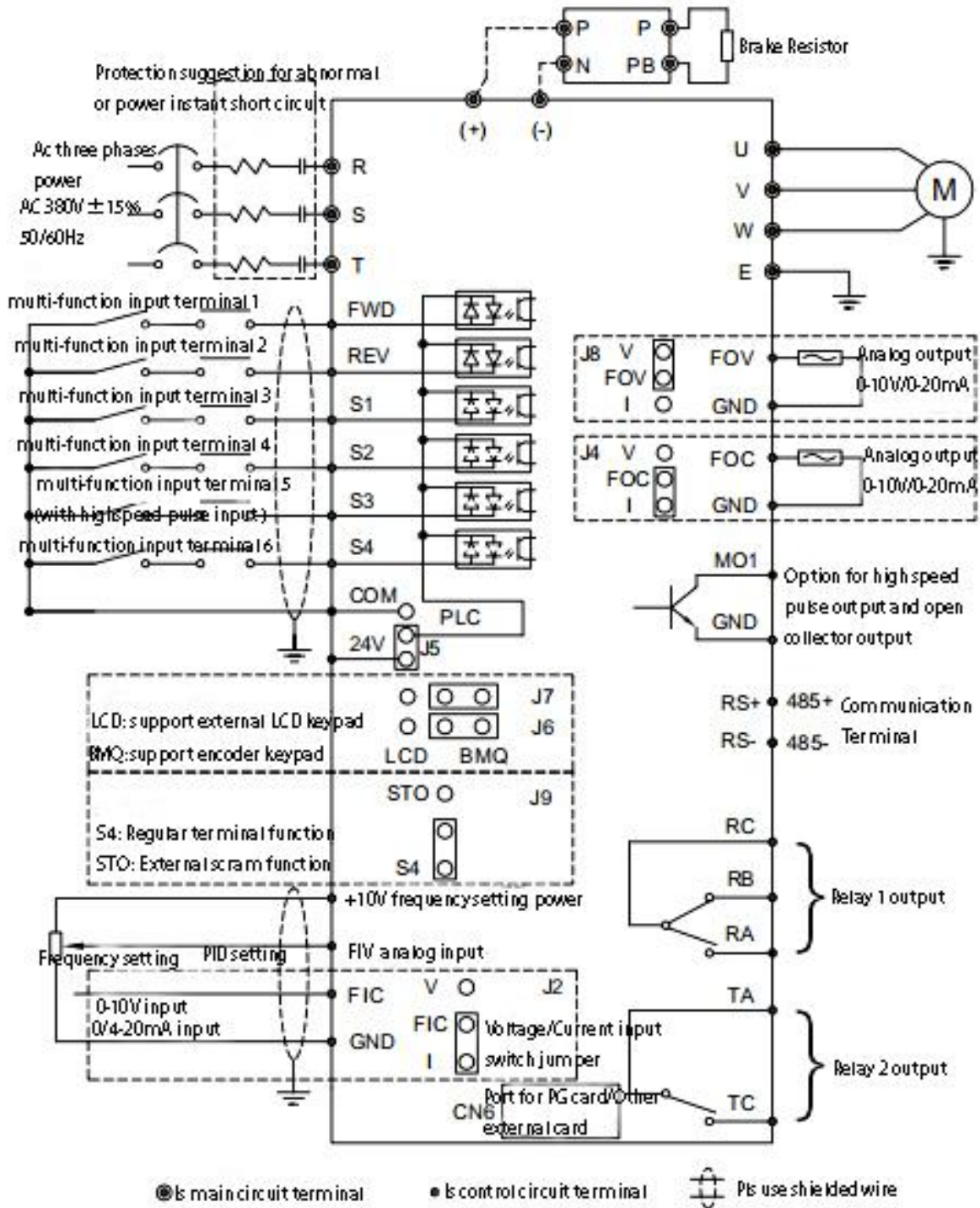


3) 220V/5.5-7.5kW&380V/7.5-160KW



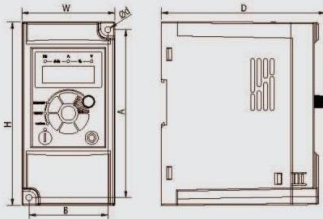
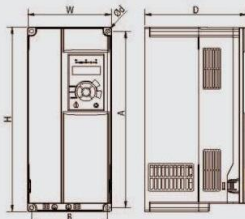
Note: It is built-in braking unit for below 37kW, the braking unit is optional for 45-160kW

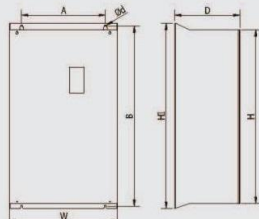
4) 380V/185kW-1000kW

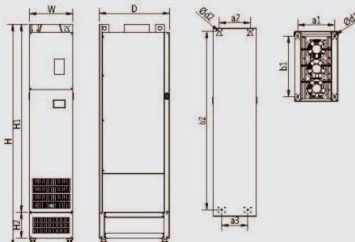


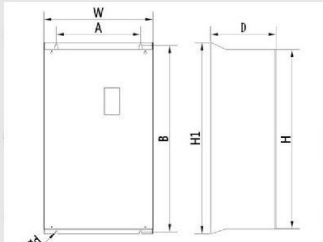


Dimension: mm

SIZE	Item no.	W	H	D	A	B	Φd	Outline
A	WN90-0.4G-2	72	142	127	130	61	4.5	
	WN90-0.75G-2							
	WN90-1.5G-2							
	WN90-2.2G-2							
	WN90-0.4G-4							
	WN90-0.75G-4							
	WN90-1.5G-4							
	WN90-2.2G-4							
	WN90-3.7G-2							
	WN90-3.7G/5.5P-4							
WN90-5.5G/7.5P-4								
B	WN90-5.5G-2	106	240	168	230	96	4.5	
	WN90-7.5G/11P-4							
	WN90-11G/15P-4							
	WN90-7.5G-2	151	332	183	318	137	7	
	WN90-15G/18.5P-4							
	WN90-18.5G/22P-4							
	WN90-22G/30P-4							
	WN90-30G/37P-4	217	400	216	385	202	7	
WN90-37G/45P-4								

SIZE	Item no.	W	H	H1	D	A	B	Φd	Outline
C	WN90-45G/55P-4	300	440	470	240	200	455	9	
	WN90-55G-4								
	WN90-75P-4								
	WN90-75G/90P-4	275	590	630	310	200	612	9	
	WN90-90G/110P-4								
	WN90-110G/132P-4								
	WN90-132G/160P-4								
WN90-160G/185P-4	400	675	715	310	320	695	11		

SIZE	Item no.	Dimension				Foot mounting			Hanging mounting				Outline	
		W	H	H1	H2	D	a1	b1	d1	a2	a3	b2		d2
D	WN90-185G/200P-4	300	1445	1180	200	500	250	430	14	220	150	1135	13	
	WN90-200G/220P-4													
	WN90-220G/250P-4													
	WN90-250G/280P-4	330	1595	1330	200	545	280	475	14	220	185	1275	13	
	WN90-280G/315P-4													
	WN90-315G/350P-4	325	1495	1230	200	545	275	470	14	225	185	1175	14	
	WN90-350G/400P-4													
	WN90-400G/450P-4													
	WN90-450G/500P-4													
	335	1720	1455	200	545	285	470	14	240	200	1380	14		

SIZE	Item no.	W	H	D	A	B	Φd	Outline
E	WN90-500G/560P-4	650	1600	800	600	700	Ø13	
	WN90-560G/630P-4							
	WN90-630G/710P-4							
	WN90-710G/800P-4	700	2200	1000	650	900	Ø13	
	WN90-800G/900P-4							
	WN90-900G/1000P-4							
	WN90-1000G							