



AUTOMATION FOR SMART MANUFACTURING

SHIHLIN AC MOTOR DRIVE SA3/SE3/SC3/SS2/SFG

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About Shihlin Electric

Established in 1955, SHIHLIN ELECTRIC & ENGINEERING CORPORATION has expanded its operations from basic construction to public works, from the development of electrical power resources to assisting in industry upgrade. The company has been a leader in the domestic market with advanced technology in heavy electrical systems, electrical equipment, machinery and automation for a long time. In retrospect, the development of the company has been closely associated with the economic growth in Taiwan. With sustained growth in revenue from domestic and overseas sources, the company has engaged in joint ventures with famous international firms in ODM and OEM production. The company has been persistent in its firm belief of "improvement over time" in running the operation and in corporate development. As such, the company plays a pivotal role in the domestic electrical and automation industry.



Core Business Units

*Transmission & Distribution Electrical Products *Power Control, Switches & Breakers *Factory Automation Products *Automotive Electrical Component Products

SC3 Series **Compact Vector Cont**

SE3 Series High Performance Ve

SA3 Series Heavy Duty AC Motor

SS2 Series Economy Vector Cont

SF-G Seri Sensorless Vector Cor

Optiona Accessories and Optic

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SC3_{Series}

Compact Vector Control AC Motor Drive



01

Power Range

M	Model KW (HP)		0.2 (0.25)	0.4 (0.5)	0.75 (1)	1.5 (2)	2.2 (3)	3.7 (5)	5.5 (7.5)
	021	1-phase 220V							
SC3	023	3-phase 220V							
	043	3-phase 440V							

Main Features

- * Compact design for space saving and DIN rail mounting
- * Torque improvement in low-speed
- * Low frequency noise reduction
- * Built-in PID feedback control
- * Built-in RFI switch for IT mains
- * Advanced design for shock-resistant and vibration

Applications





Packing Machine





Wood cutting





Conveyer Belt

Polishing Machine



Grinding Machine



Drilling Machine

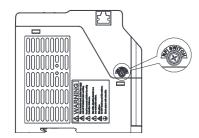
SC3 Series

Compact Vector Control AC Motor Drive

Product Features

Built-in RFI filer

Reduce electromagnetic interference.
 Switchable for different application needs



Note:For comforming to the CE regulations, please refer to service manual for wiring and installation.

Quick Connect to External Keypad

• Easy wiring for multi-machine communication. • External keypad and RS485 communication cannot be applied at the same time.



Note: Pulling operator can not be used at the same time with RS485.

Optimized Operation JOG Dial

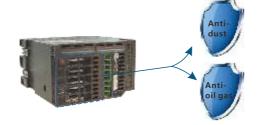
· Easy and quick setup experience for parameter adjustment.



Coating & Isolated Air Duct

· Circuit boards are painted with insulating material.

 Air circulation would be forced to go through heat sink area and prevent dust or oil gas goes into inverter main control.



Note: Please do not install the inverter in a heavily polluted environment without any protection.

Easy Maintenance

·Minimize dustfall by changing the location of exhaust fan.

• Removable cooling fan for service and regular maintenance.



Grouping Parameters - Easy Setup

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Gro	oup	Sequency	Description	Setting Range	Factory Default	
01-	01-00 P.1 01-01 P.2		Upper limit frequency	0~120.00Hz	120.00Hz	
01-			Lower limit frequency	0~120.00Hz	0Hz	
01-	-02	P.18 High speed upper limit frequency 120.00 ~ 650.00Hz		120.00 ~ 650.00Hz	120.00Hz	
01-	02	P.3	Base	Base 50Hz System set : 0 ~ 650.00Hz		
01-	-05	P.5	frequency	60Hz System set : 0~650.00Hz	60Hz	
01-	04	P.19	Base	0~1000.0V	00000	
01-	-04	P.19	Voltage	99999 : Change with input voltage	99999	
				C3 series: Similar functions are	5 1	

numbers.

Electrical Specifications

	Frame		А			В		
N	1odel SC3-021-00K-00	0.2	0.4	0.75	1.5	2.2		
	Rated output capacity (kVA)	0.6	1	1.5	2.5	4.2		
[Rated output current (A)	1.8	2.7	4.5	8	11		
~	Applicable motor capacity (HP)	0.25	0.5	1	2	3		
Output	Applicable motor capacity (kW)	0.2	0.4	0.75	1.5	2.2		
7	Overload current rating	150% 60seconds 200% 1second (inverse time characteristics)						
- F	Carrier frequency (kHz)	1~15kHz						
	Maximum output voltage	Three-phase 200-240V						
Ро	Rated power voltage	Single-phase 200-240V 50Hz / 60Hz						
Power	Power voltage permissible fluctuation		Sing	gle-phase 170-2	264V 50Hz / 60Hz			
, subbly	Power frequency permissible fluctuation			±5	%			
<u>کار</u>	Power source capacity (kVA)	0.75 1.5 2.5			3.5	6.4		
	Cooling method	Self cooling		Fo	orced air cooling			
	Weight (kg)	0.66	0.68	0.73	1.38	1.4		

Frame			/	В					
Ν	1odel SC3-023-00K-00	0.2	0.4	0.75	1.5	2.2	3.7		
	Rated output capacity (kVA)	0.6	1.2	2	3.2	4.2	6.7		
	Rated output current (A)	1.8	3	5	8	11	17.5		
0	Applicable motor capacity (HP)	0.25	0.5	1	2	3	5		
Output	Applicable motor capacity (kW)	0.2	2.2	3.7					
Ļ	Overload cur ^{rent} rating	150% 60seconds 200% 1second (inverse time characteristics)							
	Carrier frequency (kHz)	1~15kHz							
	Maximum output voltage	Three-phase 200-240V							
Pc	Rated power voltage	Three-phase 200-240V 50Hz / 60Hz							
Power	Power voltage permissible fluctuation		Thr	ee-phase 170-2	264V 50Hz/6	50Hz			
ylddns .	Power frequency permissible fluctuation			±5	5%				
ylq	Power source capacity (kVA)	0.75	1.5	2.5	4.5	6.4	10		
	Cooling method	Self cooling		F	orced air coolir	ng			
	Weight (kg)	0.69	0.69	0.70	0.73	1.32	1.4		

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SC3 Series Compact Vector Control AC Motor Drive

Electrical Specifications

	Frame		А			В			
	Model SC3-043-00K-00	0.4	0.75	1.5	2.2	3.7	5.5		
	Rated output capacity (kVA)	1	2	3	4.6	6.9	9.2		
	Rated output current (A)	1.5	2.6	4.2	6	9	12		
0	Applicable motor capacity (HP)	0.5	1	2	3	5	7.5		
Output	Applicable motor capacity (kW)	0.4	0.75	1.5	2.2	3.7	5.5		
	Overload current rating	150% 60seconds 200% 1second (inverse time characteristics)							
	Carrier frequency (kHz)	1~15kHz							
	Maximum output voltage	Three-phase 380-480V							
Ро	Rated power voltage		Thr	ee-phase 380-	480V 50Hz/6	50Hz			
Power	Power voltage permissible fluctuation		Thr	ee-phase 323-	528V 50Hz/6	50Hz			
supply	Power frequency permissible fluctuation			±	5%				
ylc	Power source capacity (kVA)	1.5 2.5 4.5			6.9	10.4	11.5		
	Cooling method	Self cooling		F	orced air coolir	ng			
	Weight (kg)	0.74	0.74	0.81	1.37	1.37	1.42		

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Common Specifications

Internati	onal certifica	CE	
	Class of pro	otection	Class I
	Pollution	evel	П
	Enclosure	Rating	IP20
ent	Vibration		Vibration below 5.9m/
Environment	Altitude		Altitude is below 2000 current 2% per 100 m
Ę	Surroundin	g environment	Indoor, no corrosive ga
	Storage ten	nperature	-20 ~ +65°C.
	Ambient hu	umidity	Below 90%Rh (non-cor
	Ambient te	mperature	-10 ~ +50℃ (non-fre way-10~ +40℃(non-
Protectio	on mechanisn	n / alarm function	Output short circuit pr under-voltage protecti over-heat protection, c
Commu	nication funct	tion	RS-485 communication c communication speed11
nel	LED indicat	ion lamp (6)	frequency monitoring i current monitoring ind PU control indication l
Operation panel	Operation 1	monitoring	Output frequency, outp accumulation rate, tem value input signal, outp last group of alarm me
Target	frequency se	Operation panel setting, stage level setting, com	
Stallin	g protectio	The stalling protection The default value is 200	
Drive r	notor	Induction motor(IM)	
	ration / decel ve characteri:		Linear acceleration /de curve1 & 2 & 3
V/F ch	aracteristics		Constant torque curve,
Startir	ng torque		180% 3Hz,200% 5Hz:U
	curacy	Analog setting	Maximum target frequ
	utput guency	Digital setting	Maximum target frequ
1650		Analog setting	DC 0~10V signal, 12 bi
	etting olution	Anglen settin	DC 0~5V or 4~20mA s
	quency	Digital setting	The frequency is set m
Juipu	t frequency ra	ange	0~650.00Hz The frequency is set wi
		ange	
Contro	l method		SVPWM control, V/F c

control, General magnetic vector control

vithin 100Hz, the resolution is 0.01Hz.

nore than 100Hz, the resolution is 0.1Hz.

signal, 11 bit

bit

uency±0.01%.

uency±0.1%.

Under the condition of general magnetic vector control

e, variable torque curve, five-point curve

eceleration curve, S pattern acceleration /deceleration

level can be set to 0~250%(06-01(P.22)). 0%

g, DC 0~5V/10V signal, DC 4~20 mA signal, multiple speed nmunication setting.

tput current, output voltage, PN voltage, electronic thermal nperature rising accumulation rate, output power, analog put terminal status...; alarm history 12 groups at most, the essage is recorded.

indication lamp, voltage monitoring indication lamp, dication lamp, motor operation lamp, mode switching lamp, lamp.

can select Shihlin/Modbus communication protocol, 15200bps or lower.

rotection, Over-current protection, over-voltage protection, tion, motor over-heat protection (06-00(P.9)), IGBT module communication abnormality protection ...

eezing) When installation is in side by side -freezing).

ondensing).

as, no flammable gas, no flammable powder.

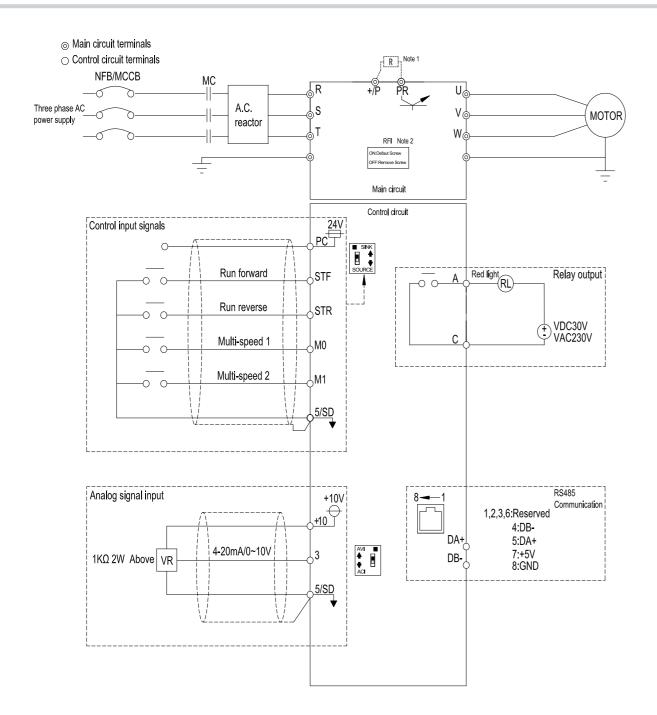
) meters. When altitude is above 1,000 m, derate the rated

/ s² (0.6G).

SC3 Series

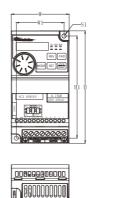
Compact Vector Control AC Motor Drive

Wiring Diagram



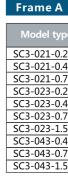
Dimensions

Frame A

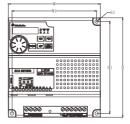


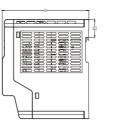
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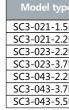
190000009 0000000000 0000000000000000



Frame B













NOTE

1:SC3-043-0.4K~1.5K,SC3-023-0.2~1.5K,SC3-021-0.2~0.75K have not +/P and PR terminals. 2:Built-in RFI filer for reducing electromagnetic interference in all models, please refer to service manual for wiring and instalation for comforming to the CE regulations.

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be	W (mm)	W1 (mm)	H (mm)	H1 (mm)	H2 (mm)	D (mm)	S1 (mm)
2K 4K 75K 2K 4K 75K 5K 75K 5K	68	56	132	120	26.5	128	5

Frame A							
Model type	W (mm)	W1 (mm)	H (mm)	H1 (mm)	H2 (mm)	D (mm)	S1 (mm)
SC3-021-1.5K							
SC3-021-2.2K							
SC3-023-2.2K							
SC3-023-3.7K	136	125	147	136	26.5	128	5
SC3-043-2.2K							
SC3-043-3.7K	1						
SC3-043-5.5K	1						

High Performance Vector Control AC Motor Drive



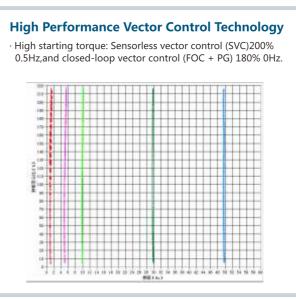


09

Product Range

Mc	del	KW (HP)	0.4 (0.5)	0.75 (1)	1.5 (2)	2.2 (3)
	021	1-Phase 220V				
SE3	023	3-Phase 220V				
	043	3-Phase 440V				

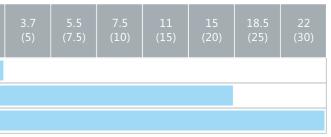
Product Features



High Performance Synchronous Motor Control Technology

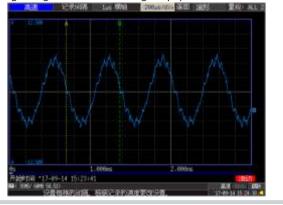
 \cdot Supports induction motor (IM) and synchronous motor (IPM and SPM) control.





Up to 1500Hz High-Speed Frequency Output

• Support high speed spindle function, which can be applied to complicated and precise machining process. The application includes high-speed drilling machine, engraving machine, centrifuge equipment.



Support Multiple High-speed Bus Connections

 \cdot Equipped with high-speed communications:CANopen、Profibus、DeviceNet、EtherCAT、MODBUS TCP ;

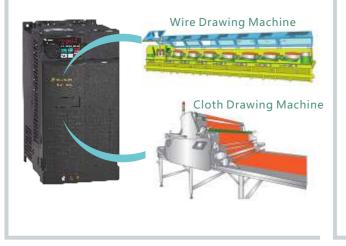


High Performance Vector Control AC Motor Drive

Product Features

Multiple Control Modes for Various Applications

- Position / Speed / Torque / Tension control mode
 Combination mode (e.g. speed+torque) can be achieved via I/O switch.
- Advanced position control functions: Homing commands, zero speed, Pr/Pt mode (with optional PG cards)



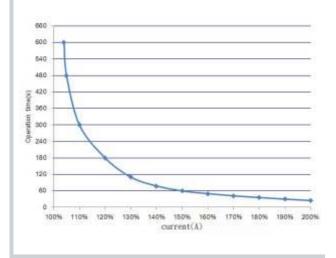
Low-noise Carrier Wave Control (Soft-PWM)

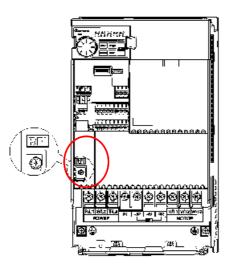
- Motor noise is controlled so that the metallic sound is transformed into a more pleasing buzz.
- Low noise operations to reduce the interference exerted upon external radio frequencies

	Function Time Sewi/SIV (SOULDE) Trig SINELE () 1888 HENERY Sont 40000001 (SOULDE) x1/5 (250.0ml)	
		11154 11154 1.394
24		
	in a substantia de la companya de la	14400 14000 1400000000
		14.75 s

Excellent Overload Endurance

• With a current overload capability of 150% for 60 seconds and 200% for 3 seconds, the setting is suitable for handling large sudden load changes applications such as tooling machinery.





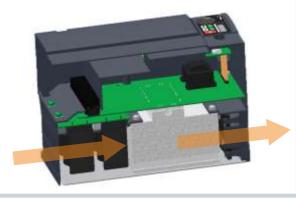
· Reduce electromagnetic interference

Built-in RFI filer

Product Features

Isolated Air Channel

• Fan wind channels are sealed and isolated from the heat dissipation system and electrical parts. Dust will not be able to infiltrate the interior of the machine through the fans.



LED Digital Keypad

- 1. 5-digit 7-segment display
- 2. Optimized operation JOG Dial



12 Sets of Alarm Records

• Complete alarm system for recording the output frequency, output current, output voltage, accumulated count of temperature increase, PN voltage, total AC drive operation time, AC drive operational status, alarm output time. A total of 12 alarm code, 12 groups of alarm code.

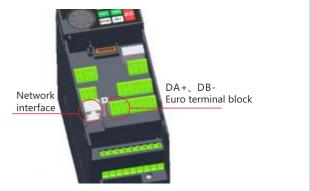
P.288	06-40	Alarm code query	0~12	0	176
P.289	06-41	Alarm code display	Read	Read	176
P.290	06-42	Alarm code query	0~10	0	176
P.291	06-43	Alarm code display	Read	Read	176

Complete Protection Functions

 Phase failure protection, overvoltage protection, overcurrent protection, undervoltage protection, output short-circuit protection, ground fault protection, motor overheat protection, IGBT module overheat protection, communication abnormality protection

Quick Connect to External Keypad and Easy Wiring

· Standard RJ45 network and DA+ DB- terminals are equipped for multi-machine communication



Built-in PLC Functions

 Provides PLC programming software, easy for editing.
 Applicable for programming small number of points, and support multiple functions.

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	(48.)
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High Performance Vector Control AC Motor Drive

Product Features

Grouping Parameters - Easy Setup

Group	Sequency	Description	Setting Range	Factory Default	User Defined
02-10	P.60	2-5filter time	0~2000ms	30ms	
02-11	1 P.139 The bias rate og 2-5 voltage signal		0~100.0%	0	
02-12	P.192	The minimum input positive voltage of 2-5	0~10.00V	0	
02-13	P.193	The maximum input positive voltage of 2-5	0~10.00V	10.00V	
02-14	P.194	The percentage corresponding to the The minimum input positive voltage of terminal 2-5	-100.0%~100.0%	0%	
		The percentage corresponding to the The maximum input positive voltage of terminal 2-5	-100.0%~100.0%	100.0%	

SE3 series: Similar functions are grouped into same sectors instead of sequence numbers.

Easy Maintenance

. Minimize dustfall by changing the location of exhaust fan. · Removable cooling fan for service and regular maintenance.







Engraving machine





CNC tooling Machine



Wood cutting

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Wire drawing machine



Mechanical Press

Electrical Specifications

	22	0V series one	-phase/tl	hree-phas	e									
		Frame			Α				В					
Mo	del SE	E3-021-□- xy	1	0.4K		0.75K		1.5K		2.2	К			
		Rated output capacity (kVA)		1		1.5		3.2		4.2				
		Rated outputcurrent (A)		2.7		4.5	8			11				
	HD	Applicable motor capacity (HP)		0.5		1		2		3				
		Applicable motor capacity (kW)		0.4		0.75		1.5		2.2	2			
		Overload current rating			150% 60 se	conds 200%	3seconds (in	verse time ch	aracteristics)					
Ħ		Carrier frequency (kHz)					1~15KHz							
Output		Rated outputcapacity (kVA)		1.2		2		3.4		4.8	5			
0		Rated outputcurrent (A)		3		5		8.5		12.	5			
	ND	Applicable motor capacity (HP)		0.5		1		2		3				
		Applicable motor capacity (kW)	0.4 0.75 1.5							2.2	2			
		Overload current rating		120% 60seconds (inverse time characteristics)										
		Carrier frequency (kHz)		1~15KHz										
	Maximu	im output voltage		Three-phase 200-240V										
ply	Rated po	ower voltage				One-phase	200-240V 5	50Hz / 60Hz						
dns	Power vo	oltage permissiblefluctuation				One -phase	One -phase 170-264V 50Hz / 60Hz							
Power supply	Power fr	requency permissible fluctuation					±5%							
Бо	Power so	ource capacity (kVA)		1.5		2.5		4.5		6.9)			
Со	oling ı	method	Self	cooling			F	orced air co	oling					
W	eight	(kg)		1.0		1.0		1.5		1.5				
_		Frame		A			3		с		0			
M		SE3-023- \Box - xy	0.4K	0.75K	1.5K	2.2K	з 3.7 К	5.5 K	7.5K	11K	ј 15К			
IVI		Rated output capacity (kVA)	1.2	2	3.2	4.2	6.7	9.5	12.5	18.3	24.7			
		Rated output capacity (KVA)	3	5	8	4.2	17.5	25	33	49	65			
		Applicable motor capacity (HP)	0.5	1	2	3	5	7.5	10	15	20			
	HD	Applicable motor capacity (HP) Applicable motor capacity (kW)	0.3	0.75	1.5	2.2	3.7	5.5	7.5	15	15			
		Overload current rating	0.4	0.75		 conds 200%					15			
		Carrier frequency (kHz)			130% 00 Se			verse time ci	aracteristics)					
Output		Rated outputcapacity (kVA)	1.2	2.1	2.4	4.0	1~15KHz	10.2	127	10.4	26.2			
Out		Rated outputcapacity (kvA) Rated outputcurrent (A)	1.3	2.1	3.4	4.8	7.4	10.3	13.7	19.4	26.3			
		Applicable motor capacity (HP)	3.2	5.5	8.5	12.5	19.5	27	36	51	69			
	ND	Applicable motor capacity (HP) Applicable motor capacity (kW)	0.5	1	2	3	5	7.5	10	15	20			
			0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15			
		Overload current rating			120% 60se	conds 150%		erse time ch	aracteristics)					
	M .2	Carrier frequency (kHz)				T I	1~15KHz	2401/						
_		im output voltage					e-phase 200-							
ldd	· ·	ower voltage					e 200-240V	-						
Power supply	<u> </u>	oltage permissiblefluctuation				inree-phas	e 170-264V	SUHZ / 60HZ						
owe	<u> </u>	requency permissible fluctuation					±5%							
6.2		ource capacity (kVA)	1.5	2.5	4.5	6.4	10	12	17	20	28			
		method				Fc	orced air cool	ing						
Со	oling ı eight		1.0	1.0	1.0	1.5	1.5	4.0	4.1	5.7	5.8			

		Frame			А				В			
Mc		E3-021- 🗆 - xy		0.4K		0.75K		1.5K		2.2	K	
		Rated output capacity (kVA)		1		1.5		3.2		4.2		
		Rated outputcurrent (A)		2.7		4.5		8	8		11	
		Applicable motor capacity (HP)		0.5		1		2		3		
	HD	Applicable motor capacity (kW)		0.4		0.75		1.5	2.2	2		
		Overload current rating			150% 60 see	conds 200%	3seconds	(inverse time ch	naracteristics))		
÷		Carrier frequency (kHz)					1~15K⊦	lz				
Output		Rated outputcapacity (kVA)	1.2			2		3.4		4.8	3	
C		Rated outputcurrent (A)		3		5		8.5		12.	5	
	ND	Applicable motor capacity (HP)		0.5		1		2		3		
		Applicable motor capacity (kW)		0.4	0.75			1.5		2.2	2	
		Overload current rating	120% 60seconds (inverse time characteristics)									
		Carrier frequency (kHz)		1~15KHz								
	Maximu	im output voltage					e-phase 2					
supply	<u> </u>	ower voltage		One-phase 200-240V 50Hz / 60Hz								
dns .	<u> </u>	oltage permissiblefluctuation				One -phase	170-264	264V 50Hz / 60Hz				
≤ ⊢	<u> </u>	requency permissible fluctuation					±5%					
			1.5		2.5		4.5		6.9	9		
Cooling method Weight (kg)			Self	cooling				Forced air co	oling			
				1.0		1.0		1.5		1.5	5	
		Бианаа		٥			2		C		0	
M		Frame	0.4K	A	1 E <i>V</i>		3		C			
Μ		SE3-023- 🗆 - xy	0.4K	0.75K	1.5K	2.2K	3.7 K	5.5 K	7.5K	11K	15K	
М		SE3-023- 🗆 - xy Rated output capacity (kVA)	1.2	0.75K 2	3.2	2.2K 4.2	3.7 K 6.7	5.5 K 9.5	7.5K 12.5	11K 18.3	15K 24.7	
M		SE3-023 xy Rated output capacity (kVA) Rated outputcurrent (A)	1.2 3	0.75K 2 5	3.2 8	2.2K 4.2 11	3.7 K 6.7 17.5	5.5 K 9.5 25	7.5K 12.5 33	11K 18.3 49	15K 24.7 65	
M		SE3-023 xy Rated output capacity (kVA) Rated outputcurrent (A) Applicable motor capacity (HP)	1.2 3 0.5	0.75K 2 5 1	3.2 8 2	2.2K 4.2 11 3	3.7 K 6.7 17.5 5	5.5 K 9.5 25 7.5	7.5K 12.5 33 10	11K 18.3 49 15	15K 24.7 65 20	
M	odel S	SE3-023 xy Rated output capacity (kVA) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (kW)	1.2 3	0.75K 2 5	3.2 8 2 1.5	2.2K 4.2 11 3 2.2	3.7 K 6.7 17.5 5 3.7	5.5 K 9.5 25 7.5 5.5	7.5K 12.5 33 10 7.5	11K 18.3 49 15 11	15K 24.7 65	
	odel S	SE3-023 xy Rated output capacity (kVA) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating	1.2 3 0.5	0.75K 2 5 1	3.2 8 2 1.5	2.2K 4.2 11 3 2.2	3.7 K 6.7 17.5 5 3.7 3seconds	5.5 K 9.5 25 7.5 5.5 (inverse time ch	7.5K 12.5 33 10 7.5	11K 18.3 49 15 11	15K 24.7 65 20	
	odel S	SE3-023 xy Rated output capacity (kVA) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz)	1.2 3 0.5 0.4	0.75K 2 5 1 0.75	3.2 8 2 1.5 150% 60 sec	2.2K 4.2 11 3 2.2 conds 200%	3.7 K 6.7 17.5 5 3.7 3seconds 1~15KH	5.5 K 9.5 25 7.5 5.5 (inverse time ch	7.5K 12.5 33 10 7.5 maracteristics)	11K 18.3 49 15 11	15K 24.7 65 20 15	
	odel S	SE3-023 xy Rated output capacity (k/A) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated outputcurpacity (kVA)	1.2 3 0.5 0.4 1.3	0.75K 2 5 1 0.75 2.1	3.2 8 2 1.5 150% 60 see 3.4	2.2K 4.2 11 3 2.2 conds 200% 4.8	3.7 K 6.7 17.5 5 3.7 3seconds 1~15K⊢ 7.4	5.5 K 9.5 25 7.5 5.5 (inverse time char) Inverse time char) Inverse time char)	7.5K 12.5 33 10 7.5 maracteristics) 13.7	11K 18.3 49 15 11 11	15K 24.7 65 20 15 26.3	
Output	odel S	SE3-023 xy Rated output capacity (kVA) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (WW) Overload current rating Carrier frequency (kHz) Rated outputcapacity (kVA) Rated outputcurrent (A)	1.2 3 0.5 0.4 1.3 3.2	0.75K 2 5 1 0.75 2.1 5.5	3.2 8 2 1.5 150% 60 sec 3.4 8.5	2.2K 4.2 11 3 2.2 conds 200% 4.8 12.5	3.7 K 6.7 17.5 5 3.7 3seconds 1~15KH 7.4 19.5	5.5 K 9.5 25 7.5 5.5 (inverse time ch lz 10.3 27	7.5K 12.5 33 10 7.5 maracteristics) 13.7 36	11K 18.3 49 15 11 11 11 19.4 51	15K 24.7 65 20 15 26.3 69	
	odel S	SE3-023 xy Rated output capacity (kVA) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated outputcurrent (A) Rated outputcurrent (A) Applicable motor capacity (kVA)	1.2 3 0.5 0.4 1.3 3.2 0.5	0.75K 2 5 1 0.75 2.1 5.5 1	3.2 8 2 1.5 150% 60 sec 3.4 8.5 2	2.2K 4.2 11 3 2.2 conds 200% 4.8 12.5 3	3.7 K 6.7 17.5 5 3.7 3seconds 1~15K⊢ 7.4 19.5 5	5.5 K 9.5 25 7.5 5.5 (inverse time child) 10.3 27 7.5	7.5K 12.5 33 10 7.5 naracteristics) 13.7 36 10	11K 18.3 49 15 11 11 19.4 51 15	15K 24.7 65 20 15 26.3 69 20	
	HD	SE3-023 xy Rated output capacity (k/A) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated outputcurrent (A) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (W)	1.2 3 0.5 0.4 1.3 3.2	0.75K 2 5 1 0.75 2.1 5.5	3.2 8 2 1.5 150% 60 see 3.4 8.5 2 1.5	2.2K 4.2 11 3 2.2 conds 200% 4.8 12.5 3 2.2	3.7 K 6.7 17.5 5 3.7 3seconds 1~15KF 7.4 19.5 5 3.7	5.5 K 9.5 25 7.5 5.5 (inverse time char) 4z 10.3 27 7.5 5.5	7.5K 12.5 33 10 7.5 maracteristics) 13.7 36 10 7.5	11K 18.3 49 15 11 11 19.4 51 15 15 11	15K 24.7 65 20 15 26.3 69	
	HD	SE3-023 xy Rated output capacity (kVA) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated outputcurrent (A) Rated outputcurrent (A) Applicable motor capacity (kVA)	1.2 3 0.5 0.4 1.3 3.2 0.5	0.75K 2 5 1 0.75 2.1 5.5 1	3.2 8 2 1.5 150% 60 see 3.4 8.5 2 1.5	2.2K 4.2 11 3 2.2 conds 200% 4.8 12.5 3 2.2	3.7 K 6.7 17.5 5 3.7 3seconds 1~15KH 7.4 19.5 5 3.7 3seconds	5.5 K 9.5 25 7.5 5.5 (inverse time change) 10.3 27 7.5 5.5 (inverse time change) 10.3 27 5.5 5.5 (inverse time change)	7.5K 12.5 33 10 7.5 maracteristics) 13.7 36 10 7.5	11K 18.3 49 15 11 11 19.4 51 15 15 11	15K 24.7 65 20 15 26.3 69 20	
	HD ND	SE3-023 xy Rated output capacity (k/A) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated outputcurrent (A) Applicable motor capacity (kWA) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (WA) Roted outputcurrent (A) Applicable motor capacity (WW) Overload current rating	1.2 3 0.5 0.4 1.3 3.2 0.5	0.75K 2 5 1 0.75 2.1 5.5 1	3.2 8 2 1.5 150% 60 see 3.4 8.5 2 1.5	2.2K 4.2 11 3 2.2 conds 200% 4.8 12.5 3 2.2 conds 150% 3	3.7 K 6.7 17.5 5 3.7 3seconds 1~15KF 7.4 19.5 5 3.7	5.5 K 9.5 25 7.5 5.5 (inverse time child) 10.3 27 7.5 5.5 (inverse time child)	7.5K 12.5 33 10 7.5 maracteristics) 13.7 36 10 7.5	11K 18.3 49 15 11 11 19.4 51 15 15 11	15K 24.7 65 20 15 26.3 69 20	
Output	HD ND	SE3-023 xy Rated output capacity (k/A) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (Hz) Rated outputcurrent (A) Applicable motor capacity (kW) Overload current rating Carrier frequency (Hz) Rated outputcurrent (A) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz)	1.2 3 0.5 0.4 1.3 3.2 0.5	0.75K 2 5 1 0.75 2.1 5.5 1	3.2 8 2 1.5 150% 60 see 3.4 8.5 2 1.5	2.2K 4.2 11 3 2.2 conds 200% 4.8 12.5 3 2.2 conds 150% i Three	3.7 K 6.7 17.5 5 3.7 3seconds 1~15KF 7.4 19.5 5 3.7 3seconds 1~15KF e-phase 2	5.5 K 9.5 25 7.5 5.5 (inverse time child) 10.3 27 7.5 5.5 (inverse time child)	7.5K 12.5 33 10 7.5 haracteristics) 13.7 36 10 7.5 haracteristics)	11K 18.3 49 15 11 11 19.4 51 15 15 11	15K 24.7 65 20 15 26.3 69 20	
Output	ND Rated p	SE3-023 xy Rated output capacity (kVA) Rated outputcurrent (A) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated outputcurrent (A) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated outputcurrent (A) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) moutput voltage	1.2 3 0.5 0.4 1.3 3.2 0.5	0.75K 2 5 1 0.75 2.1 5.5 1	3.2 8 2 1.5 150% 60 see 3.4 8.5 2 1.5	2.2K 4.2 11 3 2.2 conds 200% 4.8 12.5 3 2.2 conds 150% 3 Three Three-phase	3.7 K 6.7 17.5 5 3.7 3seconds 1~15KH 7.4 19.5 5 3.7 3seconds 1~15KH e-phase 2 2 200-240	5.5 K 9.5 25 7.5 5.5 (inverse time child) 27 7.5 5.5 (inverse time child) 10.3 27 7.5 5.5 (inverse time child) 10.3	7.5K 12.5 33 10 7.5 naracteristics) 13.7 36 10 7.5 naracteristics)	11K 18.3 49 15 11 11 19.4 51 15 15 11	15K 24.7 65 20 15 26.3 69 20	
Supply	ND ND Power v	SE3-023 xy Rated output capacity (k/A) Rated outputcurrent (A) Applicable motor capacity (k/W) Overload current rating Carrier frequency (kHz) Rated outputcurrent (A) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated outputcurrent (A) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) moutput voltage	1.2 3 0.5 0.4 1.3 3.2 0.5	0.75K 2 5 1 0.75 2.1 5.5 1	3.2 8 2 1.5 150% 60 see 3.4 8.5 2 1.5	2.2K 4.2 11 3 2.2 conds 200% 4.8 12.5 3 2.2 conds 150% 3 Three Three-phase	3.7 K 6.7 17.5 5 3.7 3seconds 1~15KH 7.4 19.5 5 3.7 3seconds 1~15KH e-phase 2 200-240 e 170-264	5.5 K 9.5 25 7.5 5.5 (inverse time child) 10.3 27 7.5 5.5 (inverse time child) 00-240V V 50Hz / 60Hz	7.5K 12.5 33 10 7.5 naracteristics) 13.7 36 10 7.5 naracteristics)	11K 18.3 49 15 11 11 19.4 51 15 15 11	15K 24.7 65 20 15 26.3 69 20	
Output	ND ND Power v	SE3-023 xy Rated output capacity (k/A) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated outputcurrent (A) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated outputcurrent (A) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) m output voltage ower voltage oltage permissiblefluctuation	1.2 3 0.5 0.4 1.3 3.2 0.5 0.4	0.75K 2 5 1 0.75 2.1 5.5 1 0.75	3.2 8 2 1.5 150% 60 sec 3.4 8.5 2 1.5 120% 60sec	2.2K 4.2 11 3 2.2 conds 200% 4.8 12.5 3 2.2 conds 150% i Three Three-phase	3.7 K 6.7 17.5 5 3.7 3seconds 1~15K⊢ 7.4 19.5 5 3.7 3seconds 1~15K⊢ e-phase 2 200-240 2 170-264 ±5%	5.5 K 9.5 25 7.5 5.5 (inverse time child) 10.3 27 7.5 5.5 (inverse time child) 00-240V V 50Hz / 60Hz	7.5K 12.5 33 10 7.5 maracteristics) 13.7 36 10 7.5 maracteristics)	11K 18.3 49 15 11 11 19.4 51 15 11	15K 24.7 65 20 15 26.3 69 20 15	
	ND ND Nover st	SE3-023 xy Rated output capacity (k/A) Rated outputcurrent (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated outputcurrent (A) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated outputcurrent (A) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) m output voltage over voltage oltage permissible fluctuation requency permissible fluctuation	1.2 3 0.5 0.4 1.3 3.2 0.5	0.75K 2 5 1 0.75 2.1 5.5 1	3.2 8 2 1.5 150% 60 see 3.4 8.5 2 1.5	2.2K 4.2 11 3 2.2 conds 200% 4.8 12.5 3 2.2 conds 150% i Three Three-phase Three-phase 6.4	3.7 K 6.7 17.5 5 3.7 3seconds 1~15KH 7.4 19.5 5 3.7 3seconds 1~15KH e-phase 2 200-240 e 170-264	5.5 K 9.5 25 7.5 5.5 (inverse time child) 10.3 27 7.5 5.5 (inverse time child) 00-240V V 50Hz / 60Hz 12	7.5K 12.5 33 10 7.5 naracteristics) 13.7 36 10 7.5 naracteristics)	11K 18.3 49 15 11 11 19.4 51 15 15 11	15K 24.7 65 20 15 26.3 69 20	

frequency (P.72) is at the set value; the inverter output voltage is at 440V; the output frequency is at 60Hz, and the ambient temperature is 40°C.

High Performance Vector Control AC Motor Drive

Electrical Specifications

		Frame		Α			3		С			D		
Μ	odel S	SE3-043- 🗆 - xy	0.4K	0.75K	1.5K	2.2K	3.7 K	5.5 K	7.5 K	11 K	15K	18.5K	221	
Output		Rated output capacity (kVA)	1	2	3	4.6	6.9	10	14	18	25	29	34	
		Rated outputcurrent (A)	1.5	2.7	4.2	6	9	12	17	24	32	38	45	
		Applicable motor capacity (HP)	0.5	1	2	3	5	7.5	10	15	20	25	30	
	HD	Applicable motor capacity (kW)	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	
		Overload current rating		150% 60 seconds 200% 3seconds (inverse time characteristics)										
		Carrier frequency (kHz)		1~15KHz										
		Rated outputcapacity (kVA)	1.4	2.3	3.5	5	8	12	15.6	21.3	27.4	31.6	37	
		Rated outputcurrent (A)	1.8	3	4.6	6.5	10.5	15.7	20.5	28	36	41.5	4	
	ND	Applicable motor capacity (HP)	0.5	1	2	3	5	7.5	10	15	20	25	3	
	ND	Applicable motor capacity (kW)	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	2	
		Overload current rating	120% 60seconds (inverse time characteristics)											
		Carrier frequency (kHz)	1~15KHz											
	Maximu	n output voltage		Three-phase 380-480V										
۶lo	Rated po	ower voltage	Three-phase 380-480V 50Hz / 60Hz											
supply	Power vo	oltage permissiblefluctuation				Th	ree-phase	323-528V	50Hz / 60	Hz				
Power	Power fr	equency permissible fluctuation						±5%						
Ро	Power so	ource capacity (kVA)	1.5	2.5	4.5	6.9	10.4	11.5	16	20	27	32	4	
Co	oling ı	method	Self cooling					Forced a	ir cooling					
				1.0	1.0	1.5	1.5	3.9	4.0	4.0	5.7	5.8	5	

Note: The test conditions of rated output current, rated output capacity and inverter power consumption are: the carrier frequency (P.72) is at the set value; the inverter output voltage is at 440V; the output frequency is at 60Hz, and the ambient temperature is 40°C.

15

Common Specifications

Contr	rol metho	od	SVPWM control, V/F control, close- vector control (SVC), close-loop vec		
Outp	ut freque	ncy range	0~1500.00Hz		
		Digital setting	The resolution is 0.01Hz.		
Frequ settin resolu	g	Analog setting	0.01Hz/60Hz(terminal 2: -10 ~ 0.15Hz/60Hz(terminal 2: 0 ~ ± : 0.03Hz/60Hz(terminal 2: 0 ~ 5 \ 0.06Hz/60Hz(terminal 4: 0 ~ 10 0.12Hz/60Hz(terminal 4: 0 ~ 5 \		
Outp		Digital setting	Maximum target frequency±0.01%.		
frequ accur		Analog setting	Maximum target frequency±0.1%.		
Speed	d control	range	IM: WhenSVC, 1:200; when FOC+PG PM: When SVC,1:20; when FOC+PG		
Starti	ng torqu	e	200% 0.5 Hz		
V/F o	characte	ristics	Constant torque curve, variable toro		
Accele	eration / d	eceleration curve characteristics	Linear acceleration /deceleration cu		
Drive	motor		Induction motor(IM), permanent m		
Stallir	ng protec	tion	The stalling protection level can be		
Target frequency setting			Parameter unit setting, DC 0~5V/10 stage level setting, communication		
PID o	ontrol		Please refer to parameter description		
Built-	in simple	PLC	Supports 21 basic instructions and		
ter unit	Operatio	n monitoring	Output frequency, output current, accumulation rate, temperature ris digital input and output terminal s		
Parameter unit	LED indic	cation lamp (7)	Forward rotation indication lamp, indication lamp, mode switch lind and work lindication lamp		
Comr	nunicatic	on function	Built-in Shihlin/Modbus communio DeviceNet、EtherCAT,high speed of		
Prote	ction me	chanism / alarm function	Output short circuit protection, Ove motor over-heat protection, IGBT m		
	Ambient	temperature	Heavy load : -10 ~ +50°C (non-fre Class of protection and operation to		
	Ambient	humidity	Below 90%Rh (non-condensing).		
	Storage t	temperature	-20 ~ +65°C.		
lent	Surround	ding environment	Indoor, no corrosive gas, no flamma		
Environment	Altitude		Altitude below 2000 meters, when a		
Envi	Vibration	1	Vibration below 5.9m/s2 (0.6G).		
	Enclosu	re Rating	IP20		
	Pollutio	n level	П		
	Class of p	protection	Class I		
Interr	national c	ertification	CE		

ose-loop V/F control (VF+PG), general flux vector control, sensorless vector control (FOC+PG), torque control (TQC+PG).

10 ~ +10V / 13bit) ~ ±10V / 12bit) ~ 5V / 11bit) ~10V, 4-20mA / 12bit) ~ 5V / 11bit)

01%.

C+PG, 1:1000.

+PG, 1:1000.

e torque curve, five-point curve, VF separation

on curve, S pattern acceleration /deceleration curve

nt magnet motor(SPM, IPM)

be set to 0~250%

V/10V signal, DC -10~+10V signal, DC 4~20 mA signal, multiple speed tion setting, HDI setting.

iption

and 14 application instructions, including PC editing software;

ent, output voltage, PN voltage, output torque, electronic thermal rising accumulation rate, output power, Analog value input signal, al status...; alarm signal and alarm history 12 groups at most

np, reverse rotation indication lamp, frequency monitoring ndication lamp ,PU contro lindication lamp, PLC indication lamp

unication protocol, can select MODBUS TCP , CANopen、Profibus、 ed card

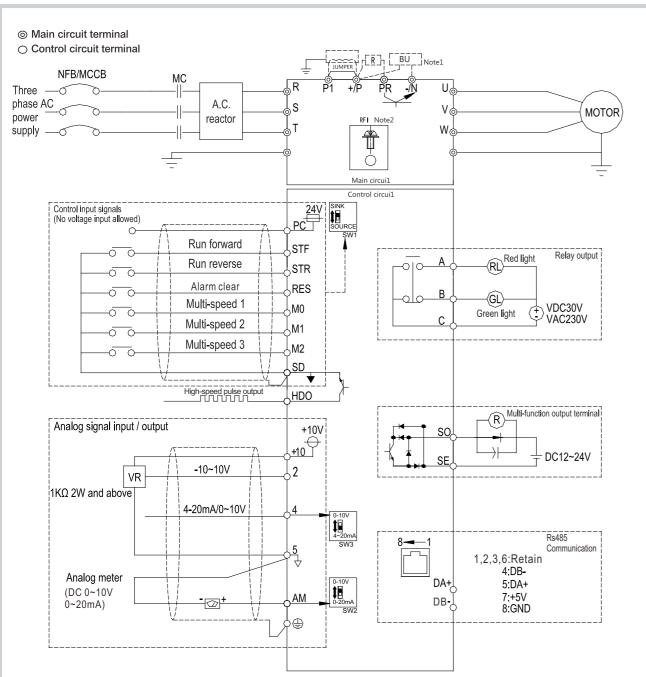
, Over-current protection, over-voltage protection, under-voltage protection, BT module over-heat protection, communication abnormality protection, n-freezing) , Light load : $-10 \sim +40^{\circ}$ C (non-freezing), please refer to 3.4.2 on temperature for details.

mmable gas, no flammable powder.

en altitude is above 1,000 m,derate the rated current 2% per 100 m

High Performance Vector Control AC Motor Drive

Wiring Diagram

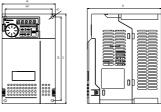


Dimensions

Frame A SE3-043-0.4~1.5 SE3-023-0.4~1.5 SE3-021-0.4~0.7

Frame B

Frame A

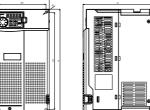


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Frame B						
Model type	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	S1 (mm)
SE3-043-2.2~3.7K						
SE3-023-2.2~3.7K	105.0	93.0	178.0	166.0	146.0	5.2
SE3-021-1.5~2.2K						
						· · · · · · · · · · · · · · · · · · ·

Frame C

Frame D



D



Model type SE3-043-5.5~11 SE3-023-5.5~7.5

Frame C

Frame D
Model type
SE3-043-15~2
SE3-023-11~1

NOTE

- 1. Please refer to the Section 5.4.1 for the applications of external thermal overload relay.
- 2. Make sure that 10, SD, SE, 5 and PC are not shorted each other.
- 3. The DC reactor between +/P and P1 is optional. Please short +/P and P1 when DC reactor is not used.
- 4. For connecting the brake unit of Frame C and D to between +/P and -/N, please refer to the Section 3.7.1 for details.
- 5.When frame C and D adding DC reactors, please remove the short circuit piece between P1 and +/P. Please refer to the Section 3.6.4 for the reactor type.

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6. Please refer to the Section 5.3.9 for wiring of HDO.

单位:mm

17

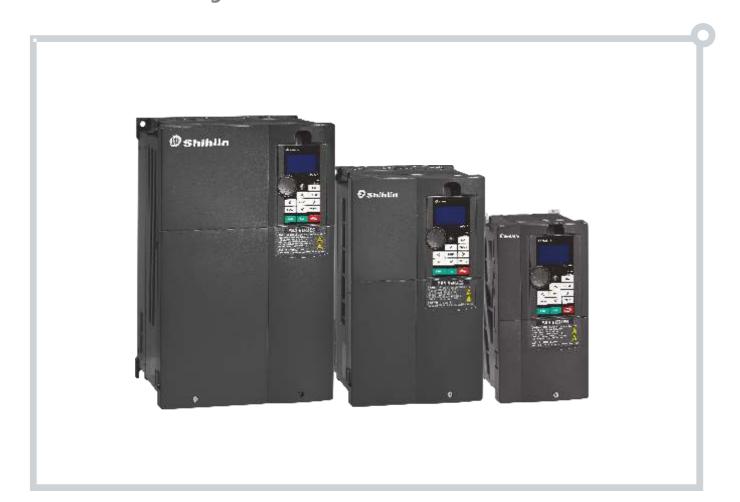
	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	S1 (mm)
5K						
5K	74.0	62.0	167.0	155.0	144.0	5.2
75K						

	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	S1 (mm)
1K	141.0	123.6	270.0	252.6	185.0	6.5
5K	141.0	123.0	270.0	252.0	185.0	0.5

e (W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	S1 (mm)
-22K	L75.0	156.4	300.0	281.4	191.8	6.2
-15K	1/5.0	150.4	500.0	201.4	191.0	0.2

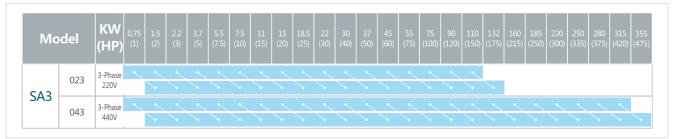


Heavy Duty AC Motor Drive with Dual Rating Vector Control





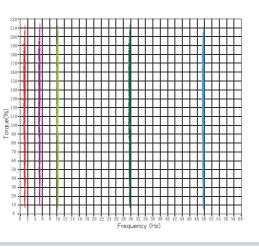
Product Range



Product Features

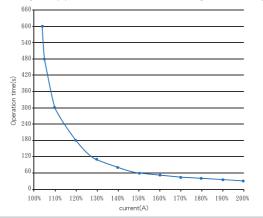
High Performance Vector Control Technology

- · Vector control and Sensorless vector control (Maximum operating frequency 120 Hz).
- · High starting torque: Sensorless vector control (SVC)150% 0.3Hz,and closed-loop vector control(FOC + PG) 180% 0Hz.

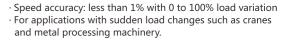


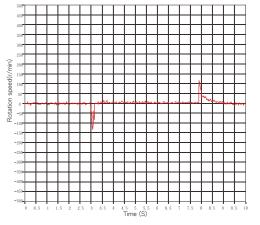
Excellent Overload Endurance

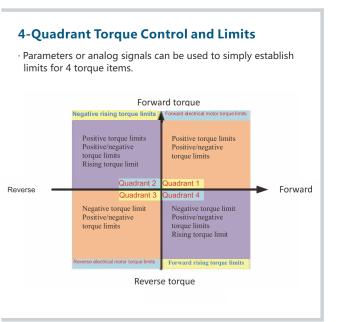
• With a current overload capability of 150% for 60 seconds and 200% for 3 seconds, the setting is suitable for handling large sudden load changes applications such as tooling machinery.



High Response Performance







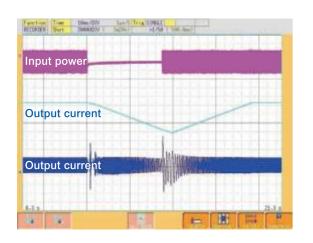
SA3 Series

Heavy Duty AC Motor Drive with Dual Rating Vector Control

Product Features

Temporary Compensation at Low Voltage

- · When temporary shut-down occurs, output frequency will be controlled to maintain DC bus voltage of the inverter to decelerate the motor.
- · When power resumes, inverter will control the motor to accelerate to its previous speed.
- Applicable for machines that are not able to commence free-run while decelerating.



Regeneration Avoidance Functions

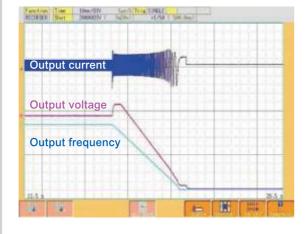
overvoltage.

· By adjusting output frequency and voltage, DC bus

voltage can be kept at a specified value and prevent

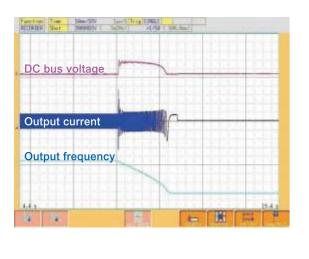
Magnetic Flux Brake

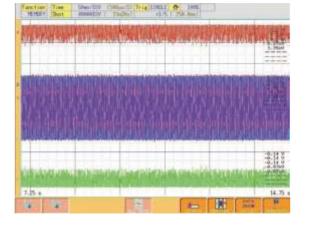
· When the motor is stopping, the magnetic flux will be transmitted to the motor coil to shorten deceleration time without relying on regenerative resistance.



Low-noise Carrier Wave Control (Soft-PWM)

· Motor noise is controlled so that the metallic sound is transformed into a more pleasing buzz. · Low noise operations to reduce the interference exerted upon external radio frequencies





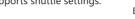
Advanced Synchronous Motors Control Technology

· Support both induction and permanent magnet motors with open-loop control.



LCD Operation Interface

- · Supports 2 display styles.
- · Able to simultaneously display 6 sets of operational data.
- · Calendar support.
- Offers both English and Chinese language interfaces. · Capable of storing 3 sets of parameters.
- · Supports shuttle settings.





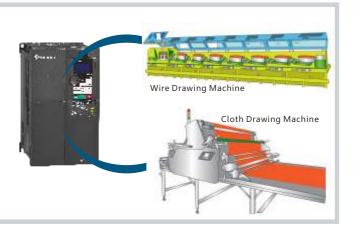
Multiple Control Modes for Various Applications

- · Position / Speed / Torque / Tension control mode · Combination mode (e.g. speed+torque) can be achieved via I/O switch.
- · Advanced position control functions: Homing commands, zero speed, Pr/Pt mode (with optional PG cards)
- Supports open-loop tension control, feeding disruption inspection and automatic spool replacement functions

Isolated Air Channel

· Fan wind channels are sealed and isolated from the heat dissipation system and electrical parts. Dust will not be able to infiltrate the interior of the machine through the fans.







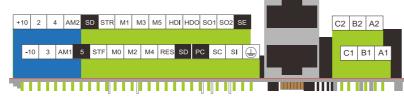
SA3 Series

Heavy Duty AC Motor Drive with Dual Rating Vector Control

Product Features

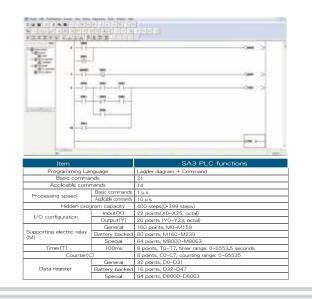
Multiple I/O Terminals

- · Includes 10 sets of multi-functional combinational logic input terminals (with high-speed pulse inputs *1) Includes 5 sets of multi-functional combinational output terminals (including electric relay output *2, transistor output *2,
- and high-speed pulse output *1).
- · Includes 3 sets of analog input signals (with -10~+10V*1 and 4~20mA/0~10V*2).
- · Includes 2 sets of analog output signals (0~20mA/0~10V*2).
- \cdot 1 set of safety switch (S1~SC).



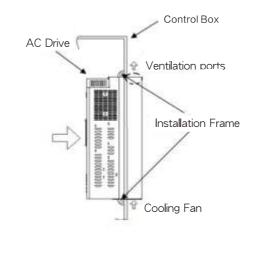
Built-in PLC Functions

· Provides PLC programming software, easy for editing. · Applicable for programming small number of points, and support multiple functions.



Through-the-wall Installation Support Provided for the Entire Series

· Improve heat dissipation, reduce heat generation within the cabinet, and improve protection for the cabinet contents.



12 Sets of Alarm Records

· Complete alarm system for recording the output frequency, output current, output voltage, accumulated count of temperature increase, PN voltage, total AC drive operation time, AC drive operational status, alarm output time (only when used with PU301C)

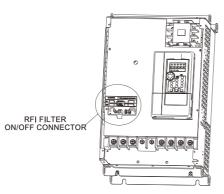
Improved Protection

· Output phase failure protection, output short circuit protection, ground leakage protection, low voltage protection, motor overheating signal (PTC), and electrolytic capacitor life inspection.

Built-in RFI filer

23

· Reduce electromagnetic interference









Air Compressor





Mechanical Press

	220	V Three-pha	se Ser	ies															
		Frame		ļ	4			В		(2		D			E	F	(G
Mo	delSA	3-023-□□K□ -	0.75K 1.5KF	1.5K 2.2KF	2.2K 3.7KF	3.7K 5.5KF	5.5K 7.5KF	7.5K 11KF	11K 15KF	15K 18.5KF	18.5K 22KF	22K 30KF	30K 37KF	37K 45KF	45K 55KF	55K 75KF	75K 90KF	90K 110KF	110H 132K
		Rated output capacity (kVA)	2	3.2	4.2	6.7	9.5	12.5	18.3	24.7	28.6	34.3	45.7	55	65	82	110	132	165
		Rated output current (A)	5	8	11	17.5	25	33	49	65	75	90	120	145	170	215	288	346	432
	HD	Applicable motor capacity (HP)	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	120	145
	Πυ	Applicable motor capacity (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
		Overload current rating		150% 60 seconds 200% 3seconds (inverse time characteristics)															
Output		Carrier frequency (kHz)		1~15kHz 1~9kHz															
		Rated output capacity (kVA)	3.2	4.2	6.7	9.5	12.5	18.3	24.7	28.6	34.3	45.7	55	65	82	110	132	165	193
Ħ		Rated output current (A)	8	11	17.5	25	33	49	65	75	90	120	145	170	215	288	346	432	506
	ND	Applicable motor capacity (HP)	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	120	145	175
	ND	Applicable motor capacity (kW)	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132
		Overload current rating						120	% 60se	onds (inverse time characteristics)									
		Carrier frequency (kHz)				1	L~15kH	z							1~9	kHz			
	Maximur	n output voltage								Three-p	hase 20	00-240V							
Po	Rated po	wer voltage							Three-	phase 2	00-240\	V 50Hz	/ 60Hz						
Power supply	Power vo	ltage permissible fluctuation							Three-	phase 1	70-264	V 50Hz	/ 60Hz						
dus	Power fre	equency permissible fluctuation									±5%								
ý	Power so	ource capacity (kVA)	2.5	4.5	6.4	10	12	17	20	28	34	41	52	65	79	100	110	132	165
Co	oling ı	method	Self cooling							F	orced ai	ir coolin	g						
We	eight	(kg)	3.15	3.15	3.15	3.15	6	6	6	10.6	10.6	33	33	33	42.7	42.7	56.5	89.2	90.2



Injection molding machine



Cranes





Wire drawing machine

Coating Machine

value; the inverter output voltage is at 220V; the output frequency is at 60Hz, and the ambient temperature is 40°C.

SA3 Series Heavy Duty AC Motor Drive with Dual Rating Vector Control

Electrical Specifications

		Frame			А				В			С		D
1		3-043-□□K □-	0.75K	1.5K	2.2K	3.7K	5.5K	7.5K	11K	15K	18.5K	22K	30K	37
/100		3-043-LLLK L-	1.5KF	2.2KF	3.7KF	5.5KF	7.5KF	11KF	15KF	18.5KF	22KF	30KF	37KF	45
		Rated output capacity (kVA)	2	3	4.6	6.9	10	14	18	25	29	34	46	5
		Rated output current (A)	3.0	4.2	6	9	12	17	24	32	38	45	60	7
	HD	Applicable motor capacity (HP)	1	2	3	5	7.5	10	15	20	25	30	40	5
		Applicable motor capacity (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	3
		Overload current rating				150% 60 s	econds 20	0% 3seco	nds (invers	e time cha	racteristics	5)		
С		Carrier frequency (kHz)						1~15kHz						1~
		Rated output capacity (kVA)	3	4.6	6.9	10	14	18	25	29	34	46	56	6
Ŧ		Rated output current (A)	4.2	6	9	12	17	24	32	38	45	60	73	9
	ND	Applicable motor capacity (HP)	2	3	5	7.5	10	15	20	25	30	40	50	6
		Applicable motor capacity (kW)	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	4
		Overload current rating				12	20% 60sec	onds (inve	rse time cl	naracteristi	cs)			
		Carrier frequency (kHz)						1~15kHz						1~
	Maximu	m output voltage					٦	hree-phas	e 380-480	V				
p	Rated po	ower voltage					Three-p	hase 380-	480V 50H;	z / 60Hz				
Power	Power vo	oltage permissible fluctuation					Three-p	hase 342-	528V 50H	z / 60Hz				
ci in	Power fr	requency permissible fluctuation						±	5%					
Power frequency permissible fluctuation			2.5	4.5	6.9	10.4	11.5	16	20	27	32	41	52	6
C	ooling	g method	Self cooling					For	ced air coo	oling				
V	Veigh	nt (kg)	3.15	3.15	3.15	3.15	3.15	6	6	6	9.8	9.8	9.8	3
														-
		Frame		D			E	F		(G	I		Н
100	_	Frame 3-043-□□K □-	45K 55KF	D 55K 75KF	75K 90KF	90K 110KF	110K 132KF	F 132K 160KF	160K 185KF	185K 220KF	G 220K 250KF	250K 280KF	280K 315KF	31
100	_			55K		90K	110K	132K	1	185K	220K	1	280K	31 35
100	_	3-043-□□K □-	55KF	55K 75KF	90KF	90K 110KF	110K 132KF	132K 160KF	185KF	185K 220KF	220K 250KF	280KF	280K 315KF	31 35 4
100	lel SA	3-043- 🗌 🗆 K 🛛 - Rated output capacity (kVA)	55KF 69	55K 75KF 84	90KF 114	90K 110KF 137	110K 132KF 168	132K 160KF 198	185KF 236	185K 220KF 295	220K 250KF 367	280KF 402	280K 315KF 438	31 35 4 6
100	_	3-043- K Rated output capacity (kVA) Rated output current (A)	55KF 69 91	55K 75KF 84 110	90KF 114 150	90K 110KF 137 180	110K 132KF 168 220	132K 160KF 198 260	185KF 236 310	185K 220KF 295 340	220K 250KF 367 425	280KF 402 480	280K 315KF 438 530	31 35 4 6 4
100	lel SA	3-043- K - Rated output capacity (KVA) Rated output current (A) Applicable motor capacity (HP)	55KF 69 91 60	55K 75KF 84 110 75	90KF 114 150 100 75	90K 110KF 137 180 120 90	110K 132KF 168 220 150	132K 160KF 198 260 175 132	185KF 236 310 215 160	185K 220KF 295 340 250 185	220K 250KF 367 425 300 220	280KF 402 480 335 250	280K 315KF 438 530 375	31 35 4 6 4
	lel SA	3-043- K - Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (HP) Applicable motor capacity (kW)	55KF 69 91 60	55K 75KF 84 110 75	90KF 114 150 100 75	90K 110KF 137 180 120 90	110K 132KF 168 220 150 110 econds 20	132K 160KF 198 260 175 132	185KF 236 310 215 160	185K 220KF 295 340 250 185	220K 250KF 367 425 300 220	280KF 402 480 335 250	280K 315KF 438 530 375 280	31 35 4 6 4
	lel SA	3-043- K - Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (kVI) Applicable motor capacity (kVI) Overload current rating	55KF 69 91 60	55K 75KF 84 110 75	90KF 114 150 100 75	90K 110KF 137 180 120 90	110K 132KF 168 220 150 110 econds 20	132K 160KF 198 260 175 132 0% 3seco	185KF 236 310 215 160	185K 220KF 295 340 250 185	220K 250KF 367 425 300 220	280KF 402 480 335 250	280K 315KF 438 530 375 280	31 35 4 6 4 3 6 6 kHz
Outpu	lel SA	3-043- K - Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (HP) Applicable motor capacity (kVI) Overload current rating Carrier frequency (kHz)	55KF 69 91 60 45	55K 75KF 84 110 75 55	90KF 114 150 100 75	90K 110KF 137 180 120 90 150% 60 s	110K 132KF 168 220 150 110 econds 20 1~9	132K 160KF 198 260 175 132 00% 3secon	185KF 236 310 215 160 mds (invers	185K 220KF 295 340 250 185 e time cha	220K 250KF 367 425 300 220 macteristics	280KF 402 480 335 250	280K 315KF 438 530 375 280	31 35 4 6 4 3 6 6 kHz 5
	HD	3-043- K - Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated output capacity (kVA)	55KF 69 91 60 45 	55K 75KF 84 110 75 55 114	90KF 114 150 100 75 137	90K 110KF 137 180 120 90 150% 60 s 168	110K 132KF 168 220 150 110 econds 20 1~9 198	132K 160KF 198 260 175 132 00% 3secon kHz 236	185KF 236 310 215 160 nds (invers 295	185K 220KF 295 340 250 185 et time cha 367	220K 250KF 367 425 300 220 macteristics 402	280KF 402 480 335 250 3) 438	280K 315KF 438 530 375 280 1~6 491	31 35 4 6 4 3 6 6 kHz 5 6 6
	lel SA	3-043- K - Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated output capacity (kVA) Rated output current (A)	55KF 69 91 60 45 	55K 75KF 84 110 75 55 114 150	90KF 114 150 100 75 137 137 180	90K 110KF 137 180 120 90 150% 60 s 168 220	110K 132KF 168 220 150 110 econds 20 1~5 198 260	132K 160KF 198 260 175 132 0% 3seco kHz 236 310	185KF 236 310 215 160 mds (invers 295 340	185K 220KF 295 340 250 185 e time cha 367 425	220K 250KF 367 425 300 220 racteristics 402 480	280KF 402 480 335 250 3) 438 530	280K 315KF 438 530 375 280 1~6 491 620	31 35 4 6 4 3 6 6 8 7 6 6 4
	HD	3-043- K - Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (kV) Overload current rating Carrier frequency (kHz) Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (HP)	55KF 69 91 60 45 	55K 75KF 84 110 75 55 55 114 150 100	90KF 114 150 100 75 137 180 120	90K 110KF 137 180 120 90 150% 60 s 150% 60 s 168 220 150 110	1110K 132KF 168 220 150 110 econds 2C 1~5 198 260 175	132K 160KF 198 260 175 132 0% 3seco kHz 236 310 215 160	185KF 236 310 215 160 mds (invers 295 340 250 185	185K 220KF 295 340 250 185 et time cha 367 425 300 220	220K 250KF 367 425 300 220 racteristics 402 480 335 250	280KF 402 480 335 250 5) 438 530 375	280K 315KF 438 530 375 280 1~{ 491 620 420	31 35 4 6 4 3 3 6 kHz 5 6 4
	HD	3-043- K - Rated output capacity (KVA) Rated output current (A) Applicable motor capacity (HP) Applicable motor capacity (KW) Overload current rating Carrier frequency (kHz) Rated output capacity (KVA) Rated output current (A) Applicable motor capacity (HP) Applicable motor capacity (KW)	55KF 69 91 60 45 	55K 75KF 84 110 75 55 55 114 150 100	90KF 114 150 100 75 137 180 120	90K 110KF 137 180 120 90 150% 60 s 150% 60 s 168 220 150 110	110K 132KF 168 220 150 110 econds 20 1~5 198 260 175 132	132K 160KF 198 260 175 132 0% 3secon kHz 236 310 215 160 conds (inve	185KF 236 310 215 160 mds (invers 295 340 250 185	185K 220KF 295 340 250 185 et time cha 367 425 300 220	220K 250KF 367 425 300 220 racteristics 402 480 335 250	280KF 402 480 335 250 5) 438 530 375	280K 315KF 438 530 375 280 1~6 491 620 420 315	31 35 4 6 4 3 3 6 kHz 5 6 4
Outpu	HD	3-043- K - Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (HP) Applicable motor capacity (KW) Overload current rating Carrier frequency (kHz) Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (kV) Overload current rating	55KF 69 91 60 45 	55K 75KF 84 110 75 55 55 114 150 100	90KF 114 150 100 75 137 180 120	90K 110KF 137 180 120 90 150% 60 s 150% 60 s 168 220 150 110	110K 132KF 168 220 150 110 econds 20 1~5 198 260 175 132 20% 60sec 1~5	132K 160KF 198 260 175 132 0% 3seco kHz 236 310 215 160	185KF 236 310 215 160 mds (invers 295 340 250 185 rse time d	185K 220KF 295 340 250 185 e time cha 367 425 300 220 maracteristi	220K 250KF 367 425 300 220 racteristics 402 480 335 250	280KF 402 480 335 250 5) 438 530 375	280K 315KF 438 530 375 280 1~6 491 620 420 315	3:3 35 4 6 4 3 3 6 6 kHz 5 6 6 4 3
Output	HD	3-043- K - Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz)	55KF 69 91 60 45 	55K 75KF 84 110 75 55 55 114 150 100	90KF 114 150 100 75 137 180 120	90K 110KF 137 180 120 90 150% 60 s 150% 60 s 168 220 150 110	1110K 132KF 168 220 150 110 econds 2C 1~9 198 260 175 132 20% 60secc 1~9	132K 160KF 198 260 175 132 0% 3seco kHz 236 310 215 160 conds (inve kHz	185KF 236 310 215 160 nds (invers 295 340 250 185 rse time d	185K 220KF 295 340 250 185 et time cha 367 425 300 220 maracteristi	220K 250KF 367 425 300 220 racteristics 402 480 335 250	280KF 402 480 335 250 5) 438 530 375	280K 315KF 438 530 375 280 1~6 491 620 420 315	31 35 4 6 4 3 3 6 6 kHz 5 6 6 4 3
Output	HD ND Rated pr	3-043- K Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (HP) Applicable motor capacity (HP) Overload current rating Carrier frequency (kHz) Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) m output voltage	55KF 69 91 60 45 	55K 75KF 84 110 75 55 55 114 150 100	90KF 114 150 100 75 137 180 120	90K 110KF 137 180 120 90 150% 60 s 150% 60 s 168 220 150 110	110K 132KF 168 220 150 110 econds 20 1~5 198 260 175 132 20% 60sec 1~5 132	132K 160KF 198 260 175 132 0% 3secon kHz 236 310 215 160 onds (inve kHz hree-phas hase 380-	185KF 236 310 215 160 ands (inverse 295 340 250 185 rse time cl 8380-480 480V 50H;	185K 220KF 295 340 250 185 e time cha 367 425 300 220 naracteristi	220K 250KF 367 425 300 220 racteristics 402 480 335 250	280KF 402 480 335 250 5) 438 530 375	280K 315KF 438 530 375 280 1~6 491 620 420 315	31 35 4: 6: 4: 4: 3 3 5: 6: 6: 4: 3: 5: 5: 6: 6: 4: 3: 5: 5: 5: 5: 5: 6: 6: 4: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5:
Output	HD HD ND Rated px Power vt	3-043- K Rated output capacity (kVA) Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (HP) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (kW) Overload current rating Carrier frequency (kHz) m output voltage ower voltage otage permissible fluctuation	55KF 69 91 60 45 	55K 75KF 84 110 75 55 55 114 150 100	90KF 114 150 100 75 137 180 120	90K 110KF 137 180 120 90 150% 60 s 150% 60 s 168 220 150 110	110K 132KF 168 220 150 110 econds 20 1~5 198 260 175 132 20% 60sec 1~5 132	132K 160KF 198 260 175 132 0% 3second kHz 236 310 215 160 ponds (inversity) kHz hase 380- hase 342-	185KF 236 310 215 160 mds (invers 295 340 250 185 rse time cl 830-480 480V 50H; 528V 50H;	185K 220KF 295 340 250 185 e time cha 367 425 300 220 naracteristi	220K 250KF 367 425 300 220 rracteristics 402 480 335 250	280KF 402 480 335 250 5) 438 530 375	280K 315KF 438 530 375 280 1~6 491 620 420 315	31 35 4: 6: 4: 4: 3 3 5: 6: 6: 4: 3: 5: 5: 6: 6: 4: 3: 5: 5: 5: 5: 5: 6: 6: 4: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5:
Output	HD HD Maximum Rated px wer fir Power vice for the second s	3-043- K - Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (kV) Overload current rating Carrier frequency (kHz) Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (kVA) Rated output current (A) Applicable motor capacity (kV) Overload current rating Carrier frequency (kHz) m output voltage otage permissible fluctuation requency permissible fluctuation	55KF 69 91 60 45 84 110 75 55	55K 75KF 84 110 75 55 114 150 100 75	90KF 114 150 100 75 137 180 120 90	90K 110KF 137 180 120 90 150% 60 s 150% 150 150 110 12	110K 132KF 168 220 150 110 econds 20 1~5 198 260 175 132 20% 60sec 1~5 132 20% 60sec 1~5	132K 160KF 198 260 175 132 0% 3seco kHz 236 310 215 160 onds (inve kHz hree-phas hase 380- hase 342- ±	185KF 236 310 215 160 nds (invers 295 340 250 185 rse time cl 830-480 480V 50H; 528V 50H; 528V 50H;	185K 220KF 295 340 250 185 e time cha 367 425 300 220 naracteristi V z / 60Hz z / 60Hz	220K 250KF 367 425 300 220 racteristics 402 480 335 250 cs)	280KF 402 480 335 250 5) 438 530 375 280	280K 315KF 438 530 375 280 1~6 491 620 420 315 1~6	311 35 4 6 4 3 6 6 kHz 5 6 6 4 3 6 kHz
Outrout Dower supply	HD HD ND Maximum Rated px Power fr fr Power sc	3-043- K Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (kV) Overload current rating Carrier frequency (kHz) Rated output current (A) Applicable motor capacity (kVA) Rated output current (A) Applicable motor capacity (kVA) Rated output current (A) Applicable motor capacity (kVA) Rated output current (A) Cverload current rating Carrier frequency (kHz) m output voltage over voltage oltage permissible fluctuation equency permissible fluctuation ource capacity (kVA)	55KF 69 91 60 45 	55K 75KF 84 110 75 55 55 114 150 100	90KF 114 150 100 75 137 180 120	90K 110KF 137 180 120 90 150% 60 s 150% 60 s 168 220 150 110	110K 132KF 168 220 150 110 econds 20 1~5 198 260 175 132 20% 60sec 1~5 132	132K 160KF 198 260 175 132 0% 3seco kHz 236 310 215 160 onds (inve kHz 'hree-phas hase 380- hase 342- 198	185KF 236 310 215 160 nds (invers 295 340 250 185 rse time cl 8380-480 480V 50H; 528V 50H; 528V 50H; 5%	185K 220KF 295 340 250 185 e time cha 367 425 300 220 naracteristi v z / 60Hz z / 60Hz z / 60Hz	220K 250KF 367 425 300 220 rracteristics 402 480 335 250	280KF 402 480 335 250 5) 438 530 375	280K 315KF 438 530 375 280 1~6 491 620 420 315	31 35 4 6 4 3 3 6 6 kHz 5 6 6 4 3
	HD HD ND Rated pc Power sc OOline	3-043- K - Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (kV) Overload current rating Carrier frequency (kHz) Rated output capacity (kVA) Rated output current (A) Applicable motor capacity (kVA) Rated output current (A) Applicable motor capacity (kV) Overload current rating Carrier frequency (kHz) m output voltage otage permissible fluctuation requency permissible fluctuation	55KF 69 91 60 45 84 110 75 55	55K 75KF 84 110 75 55 114 150 100 75	90KF 114 150 100 75 137 180 120 90	90K 110KF 137 180 120 90 150% 60 s 150% 150 150 110 12	110K 132KF 168 220 150 110 econds 20 1~5 198 260 175 132 20% 60sec 1~5 132 20% 60sec 1~5	132K 160KF 198 260 175 132 0% 3seco kHz 236 310 215 160 onds (inve kHz 'hree-phas hase 380- hase 342- 198	185KF 236 310 215 160 nds (invers 295 340 250 185 rse time cl 830-480 480V 50H; 528V 50H; 528V 50H;	185K 220KF 295 340 250 185 e time cha 367 425 300 220 naracteristi v z / 60Hz z / 60Hz z / 60Hz	220K 250KF 367 425 300 220 racteristics 402 480 335 250 cs)	280KF 402 480 335 250 5) 438 530 375 280	280K 315KF 438 530 375 280 1~6 491 620 420 315 1~6	311 35 4 6 4 3 6 6 kHz 5 6 6 4 3 6 kHz

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Common Specifications

	Contro	ol method	SVPWM control, V/F control, close-loop V/F control (SVC), close-loop vector control (FOC			
Ou	tput fre	quency range	0~650.00Hz			
		Digit setting	The resolution is 0.01Hz.			
se	quency etting olution	Analog setting	0.01Hz/60Hz (Terminal 2: -10~+10V/13bit) 0.015Hz/60Hz (Terminal 2: 0~±10V/12bit; Te 0.03Hz/60Hz (Terminals 2, 3; 0~5V/11bit) 0.06Hz/60Hz (Terminal 4: 0~10V, 4-20mA/10 0.12Hz/60Hz (Terminal 4: 0~5V/9bit)			
	utput	Digit setting	Maximum target frequency ±0.01%.			
	quency curacy	Analog setting	Maximum target frequency $\pm 0.1\%$.			
s	peed co	ontrol range	IM: WhenSVC, 1:200; when FOC+PG, 1:1000. PM: When SVC,1:20; when FOC+PG, 1:1000.			
	Start	: torque	150% 0.3Hz (SVC), 180% 0Hz (FOC+PG).			
	V/F cha	racteristics	Constant torque curve, variable torque curve			
		n / deceleration aracteristics	Linear acceleration /deceleration curve, S pa			
	curve characteristics Driving motor Stall current protection		Induction motor (IM), permanent magnet m			
Sta			The stalling protection level can be set to			
Tar	get freq	uency setting	Parameter unit setting, DC 0~5V/10V signal, speed stage level setting, communication se			
	PID	control	Please refer to 08-00~08-01、08-04~08-14,			
	Built-in	simple PLC	Supports 21 basic instructions and 14 applic			
Operation panel		Dperation nonitoring	Output frequency, output current, output vo rate, temperature rising accumulation rate, o terminal status; alarm history 12 groups at			
on panel		D indication amp (10)	Forward rotation indication lamp, reverse ro voltage monitoring indication lamp, current controlindication lamp, EXT indication lamp,			
Con	nmunica	ation functions	RS-485 communication, can select Shihlin/M or below, built-in CanOpenprotocol(SA3-CP (the connector can also be connected to par			
Pro		mechanism/ function	Output short circuit protection, Over-current motor over-heat protection (06-00(P.9)), IGBT protection, PTC temperature protection etc, to-earth (ground) leakage currents protectio			
	Ambie	nt temperature	Over load $: -10 \sim +50^{\circ}$ C (non-freezing) , Lig of protection and operation temperature for			
		ient humidity	Below 90%Rh (non-condensing).			
		e temperature irrounding	-20~ +65°C Indoors, no corrosive gases, no flammable g			
Enviro	en	ivironment				
Environment		Altitude	Altitude below 3000 meters, when altitude is Note 1: according to the safety of CE certificat converter, using at an altitude of less than 300 the requirement of the overvoltage level II, wh conditions that could satisfy the requirement			
	\ \	/ibrations	Vibration below 5.9m/s ² (0.6G).			
	Enclo	osure Rating	Frame A, B, C , IP20 / NEMA TYPE 1, Frame D			
	Poll	lution level	П			
	Class	of protection	Class I			
Inte	ernation	al certification	CE			

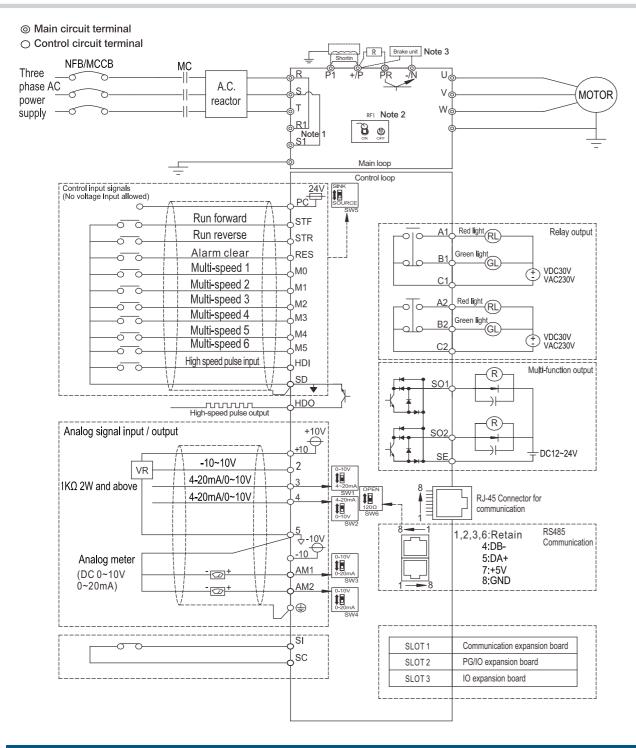
control (VF+PG), general flux vector control, sensorless vector C+PG), torque control (TQC+PG).
rminal 3: 0~10V, 4-20mA/12bit)
)bit)
e, five-point curve, VF separation
ttern acceleration /deceleration curve1 & 2 & 3
otor (SPM and IPM)
400% (06-01(P.22)). The default value is 150%.
DC -10~+10V signal, DC 4~20 mA signal, multiple tting, HDI setting.
/ P.170~P.182 in chapter 4.
ation instructions, including PC editing software;
Itage, PN voltage, output torque, electronic thermal accumulation output power, Analog value input signal, digital input and output most, the last group of alarm message is recorded.
tation indication lamp, frequency monitoring indication lamp, monitoring indication lamp, NET indication lamp, PU PLC indication lamp and MON monitoring indication lamp.
lodbus communication protocol, communication speed38400bps 301 expanded board can be optional), double RJ-45 connectors ameter unit)
t protection, over-voltage protection, under-voltage protection, T module over-heat protection, communication abnormality electrolytic capacitor overheat, input and output phase failure, n, circuit error detection
ght load : -10 \sim +40°C (non-freezing), please refer to 3.4.5 Class details.
as, no flammable powder.
above 1,000 m,derate the rated current 2% per 100 m
tion to meet specification EN61800-5-1, this series of frequency 00 m, can be installed under the environment that could satisfy nile using at an altitude of less than 2000 m, can be installed in of overvoltage level III worse environment.

D and above IP00 / UL OPEN TYPE(IP20 option can be selected).

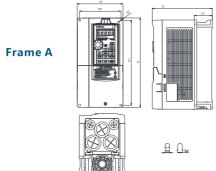
SA3 Series

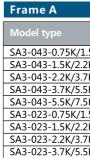
Heavy Duty AC Motor Drive with Dual Rating Vector Control

Wiring Diagram



Dimensions





Frame B



Model type
SA3-043-7.5K/11
SA3-043-11K/15
SA3-043-15K/18.
SA3-023-5.5K/7.5
SA3-023-7.5K/11
SA3-023-11K/15

Frame B

Frame C





Frame C

NOTE

1. R1, S1 terminal is only D ~ H framework, specific wiring please refer to the section 3.7.5.

2. RFI filter Settings, please refer to section 3.7.4.

3. The brake resistor connection approach between +/P and PR is for Frame A, B and C only. For connecting the brake unit of Frame D, E, F, G and H to between +/P and -/N, please refer to the Section 3.7.1 for details.

4. The DC resistor between +/P and P1 is optional. Please short +/P and P1 when AC resistor is not used.

5.When adding DC reactors, please remove the short circuit piece between P1 and +/P. Please refer to the Section 3.6.4 for the reactor type. 6. Please refer to the Section 5.3.9 for wiring of HDO.

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	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)
5KF KF KF KF 5KF KF KF KF	130.0	116.0	250.0	236.0	170.0	51.3	6.2	6.2

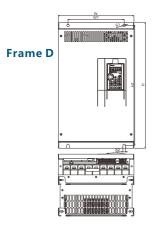
	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)
KF (F 5KF 5KF KF (F	190.0	173.0	320.0	303.0	190.0	80.5	8.5	8.5

	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)
2KF KF SKF 2KF	250.0	231.0	400.0	381.0	210.0	89.5	8.5	8.5

SA3 Series

Heavy Duty AC Motor Drive with Dual Rating Vector Control

Dimensions

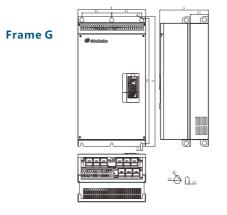


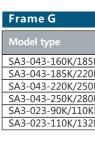
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Frame D								
Model type	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)
SA3-043-37K/45KF								
SA3-043-45K/55KF	1							
SA3-043-55K/75KF	1							
SA3-043-75K/90KF	330.0	245.0	550.0	525.0	275.0	137.5	11.0	11.0
SA3-023-22K/30KF	1							
SA3-023-30K/37KF	1							
SA3-023-37K/45KF	1							

Dimensions





Frame E 33

Frame E									
Model type	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)	
SA3-043-90K/110KF									
SA3-043-110K/132KF	370.0	295.0	589.0	560.0	300.0	137.5	11.0	11.0	
SA3-023-45K/55KF	570.0			560.0	500.0	00.0 137.5			
SA3-023-55K/75KF									

ര്ര Frame H Frame H SA3-043-280K/315 SA3-043-315K/355 0 0 <u>____</u>

Frame F 52 Å [].53

Frame F										
Model type	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)	S3 (mm)	
SA3-043-132K/160KF	120.0	3/0.0	800.0	770.0	300.0	1/15 5	13.0	25.0	13.0	
SA3-023-75K/90KF	420.0	540.0	000.0	//0.0	500.0	143.3	13.0	23.0	13.0	

	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)	S3 (mm)
5KF 0KF 0KF 0KF KF 2KF	500.0	180.0	870.0	850.0	360.0	150.0	13.0	25.0	13.0

	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)	S3 (mm)
5KF 5KF	600.0	230.0	1000.0	980.0	400.0	181.5	13.0	25.0	13.0



AC Motor Drive



Product Range

Мс	del	KW (HP)	0.4 (0.5)	0.75 (1)	1.5 (2)	2.2 (3)	3.7 (5)	5.5 (7.5)
	021	1-phase 220V						
SS2	023	3-phase 220V						
	043	3-phase 440V						

Main Features

- * Built-in shuttle knop to adjust output frequency and set parameters easily
- * Built-in RS-485 communication interface
- * Support MODBUS and Shihlin communication protocol
- * Built-in proportion linkage control function to support multi inverters connection
- * Maximum 650Hz frequency output
- * Support DIN rail mount
- * The resolution of frequency setting: digital 0.01Hz ; analog 1/1000
- * The accuracy of output frequency: 0.01%
- * Multi-function input/output terminals
- * Support 2 analog setting types: 0-10V and 4-20mA

Application





Mixer Machine





Grinding Machine





Packing Machine



Constant pressure Water supply

Desktop type lathe



Printing press

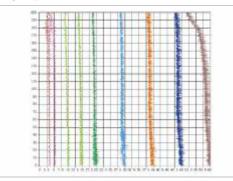
SS2

Series Economy Vector Control AC Motor Drive

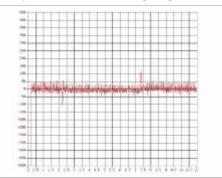
Product Features



- General flux vector control technique
- A 32-bit RISC CPU for high-speed computation.
- Starting torque, 150%3Hz



Speed accuracy is within 1% (0%~100% loading changes)



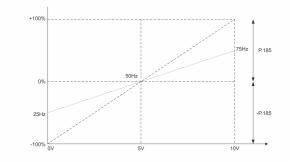
Motor parameter auto-tuning function

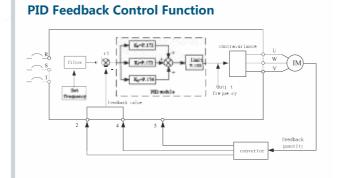
Stalling protection level reaches to 250%.

High Performance And Function

- The maximum output frequency up to 650Hz
- Soft-PWM functions for eliminating motor noises and preventing the temperature of AC drive module too high.
- Built-in energy-saving control function, the AC drive will control the output voltage automatically in order to reduce the output power losses when the AC drive is running.
- Cooling fan operation method is selectable.

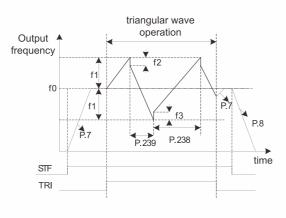
Built-in Proportion Linkage Function





Triangular Wave Function (traverse)

• This is suitable for operations that need traversing and winding movements such as textile operations.



f0: Setting value of frequency

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- f1: Generated amplitude for setting frequency ($f0 \times P.235$)
- f2 : Compensation from acceleration to deceleration $(f1 \times P.236)$
- f3 : Compensation from deceleration to acceleration ($f1\!\times\!P\!.237$)

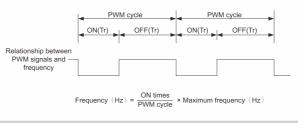
Built-in Frequency And Parameter Setting Knob



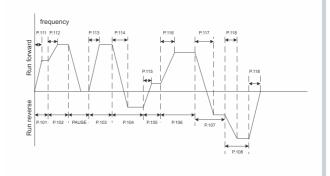
Product Features

PWM Control Function

- The operating frequency can be controlled with the PWM signals output from PLC.
- The terminal M2 can be set as PWM signal input.

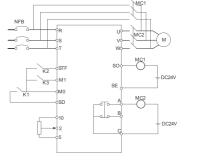


Programmed Operation Mode With Manually Operated



Equipped With Grid Power Frequency Switching Mechanism

- It provides automatic switch between the grid power and frequency conversion.
- If the motor is running at rated frequency, using grid power frequency has a much better efficiency.
- In order to prevent the motor from stopping for a long time during the maintenance of AC drive, it is recommended AC drive to have grid power switching function.





SS2

Easy To Install Design

 Din rail design-Multiple AC drives can be mounted side-by-side in the panel.



- Built-in standard RJ45 port for RS485 communication.
- Screwless terminal blocks designed



The cooling fan is removable and easy to clean.



Electric Specifications

	Model SS2-021-□□	ПК	0.4K		0.75K		1.5K	2.2K
		HP	0.5		1		2	3
Appl	icable Motor Capacity	kW	0.4		0.75		1.5	2.2
	Rated output capacity kVA		0.95		1.5		2.5	4.2
Q	Rated output current A (No		2.7		4.5		8	11
Output	Overload current rating	010)		50% 60 second		cond (invers	e time characte	
Ŧ	Maximum output voltage				,	200~240V A		instics)
	Rated power voltage			Sin	gle phase 20			
Powe	Power voltage permissible	fluctuation			gle phase 17			
Power Supply	Power frequency permission			511	gie pliase 17	±5%	12/0012	
oply	Power source capacity kVA		1.5		2.5		3.5	6.4
Cooli	ing Method	\	Self-cool	ling	2.5		air cooling	0.4
	ter weight (kg)			iiriy	1.2			1.7
			1.1		1.2		1.6	1./
220	V Series Three-Phase							
	Model SS2-023-□□	П□К	0.4	0.75	;	1.5	2.2	3.7
		HP	0.5	1		2	3	5
Appl	icable Motor Capacity	kW	0.4	0.75	;	1.5	2.2	3.7
	Rated output capacity kVA	(Note)	1.2	2		3.2	4.2	6.7
õ	Rated output current A (N		3	5		8	11	17.
Output	Overload current rating	,	1	50% 60 second	ls: 200% 1 se	cond (invers	e time characte	ristics)
Ŧ	Maximum output voltage				-	200~240V A		,
	Rated power voltage				3 Phase 200~			
Powe	Power voltage permissible	fluctuation			3 Phase 170~			
Power Supply	Power frequency permissi					±5%		
ply	Power source capacity kVA		1.5	2.5		4.5	6.4	10
Cooli	ing Method	-	Self-coolin	a		Forced air	cooling	
	-						5	
lriver	ter weight (kg)		1.1	1.2		1.2	1.6	1.7
440	V Series Three-Phase							
	Model SS2-043- 🗆 🗆	□к	0.4	0.75	1.5	2.2	3.7	5
		HP	0.5	1	2	3	5	7
Appl	icable Motor Capacity	kW	0.4	0.75	1.5	2.2	3.7	5
	Rated output capacity kVA	(Note)	1	2	3	4.6	6.9	9
Qu	Rated output current A (N	ote)	1.5	2.6	4.2	6	9	1
Output	Overload current rating		15	50% 60 Second	s; 200% 1 Se	cond (invers	e time characte	ristics)
	(reverse time characteristic	cs)			Three-ph	ase 380~480	V	
	Rated power voltage			3	3 Phase 380~	480V 50Hz/	[/] 60Hz	
Powe	Power voltage permissible	fluctuation			323~528	V 50Hz/60H	Ηz	
Power Suppl	Power frequency permissi					±5%		
p	Power source capacity kVA		1.5	2.5	4.5	6.9	10.4	13
Cooli	ing Method		Self-cooling	Self-cooling			ed air cooling	

Note: The test conditions of rated output current, rated output capacity and inverter power consumption are: the carrier frequency (P.72) is at factory setting value; the inverter output voltage is at 220V/440V; the output frequency is at 60Hz, and the ambient temperature is 50°C.

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Common Specifications

Contro	ol Method		SVPWN	A control, V/F control, general flux vector control.
Outpu	it Frequency Rang	e	0.1~65	50Hz (The starting frequency setting range is betwee 0 and 60Hz).
-		Digital setting		requency value is set below 100Hz, the resolution will be 0.01Hz. requency value is set above 100Hz, the resolution will be 0.1Hz.
Freque	ency Resolution	Analog setting		setting the signal DC 0~5V, the resolution will be 1/500; setting the signal DC 0~10V or 4~20mA, the resolution will be 1/1000.
Outpu	It Frequency	Digital setting	Maxim	um target frequency±0.01%.
Accura	асу	Analog setting	Maxim	um target frequency±0.5%.
-	e / Frequency t Characteristics			oltage (P.19), base frequency (P.3) can be arbitrarily set. nt torque model and applicable load model can be selected (P.14).
Starti	ng Torque		150% 3	3Hz, 200% 5Hz: when using the general flux vector control.
Torque	e Boost		The tor	que boost setting range between 0 and 30% (P.0), auto boost, slip compensation.
	eration / Decelerat Characteristics	ion	setting	olution (0.01s/0.1s) of acceleration/deceleration time (P.7, P.8) is switched by P.21. The range has 0~360s or 0~3600s for selection. And different acceleration/deceleration nodel can be selected by P.29.
DC Bra	aking		0~60 S	braking action frequency range between 0 and 120Hz (P.10); the DC braking time is econds (P.11); and the DC braking voltage is 0~30% (P.12). Linear braking and idling g selection (P.71).
Stall c	urrent protection		The sta	lling protection level can be set between 0 and 250% (P.22).
Target	Frequency Settin	g		ion panel setting, DC 0~5V signal setting, DC 0~10V signal setting, DC 4~20mA signal , Multi-speed stage levels setting, communication setting,pulse frequency setting.
PID Co	ontrol		Please	refer to P.170~P.183 in Chapter 5.
Multif	unction Control Te	erminals	Motor externa	starting (STF, STR), the second function (RT), '16-speed operation' (RL, RM, RH, REX), al thermal relay (OH), reset (RES), etc. (can be set by the user (P.80~P.84, P.86))
Multiple Output Terminals	Multi-function output terminals Multi-function	SO,SE	P.40	Inverter running (RUN), output frequency detection (FU), Up to output frequency(SU), overload detection (OL), zero current detection (OMD), alarm (ALARM), Section detection (PO1), Periodical detection (PO2), and Pause detection (PO3), Inverter output (BP), Commercial power-supply output (GP).
als	output relay	А'В'С	P.85	
Ŧ	Analog output	AM ' 5	Multi-f	unction DC (0~10V) Output: output frequency, output current (P.54).
	Running status n	nonitoring	Output	frequency monitoring, output current monitoring, and output voltage monitoring, alarm record
Ope	HELP mode		Alarm l	history monitoring.
Operation	LED indication la	imp(6)	lamp, c	dication lamp, frequency monitoring indication lamp, voltage monitoring indication surrent monitoring indication lamp, mode switching indication lamp, and PU control ion lamp.
Comr Functi	nunication on	RS485	Build-ir	n RS485 communication, RJ-45 connector.
Protec functio	tion Mechanism / on	Alarm	under-	short circuit protection,Over-current protection, (+/P)-(-/N)over-voltage protection, voltage protection, motor over heat protection (P.9), IGBT module over-heat protection, unication abnormality protection, etc.
	Ambient temper	ature	-10 ~ +	50 $^\circ \!\! \mathbb{C}$ (non-freezing), installation side by side -10~ +40 $^\circ \!\! \mathbb{C}.$
En	Ambient humidi	ty	Below	90%Rh (non-condensing)
viror	Storage tempera	iture	-20 ~ +	65℃
nme	Surrounding envi	ronment	Indoor,	no corrosive gas, no flammable gas, no flammable dust
Environmental Condition	Altitude and vibra	tion	Altitud	e:below 1000 meters, Vibration:below 5.9m/s ² (0.6G).
ndit	Enclosure Rating	J	IP20	
ion	Pollution level		Π	
Ī	Class of protection	n	Class I	



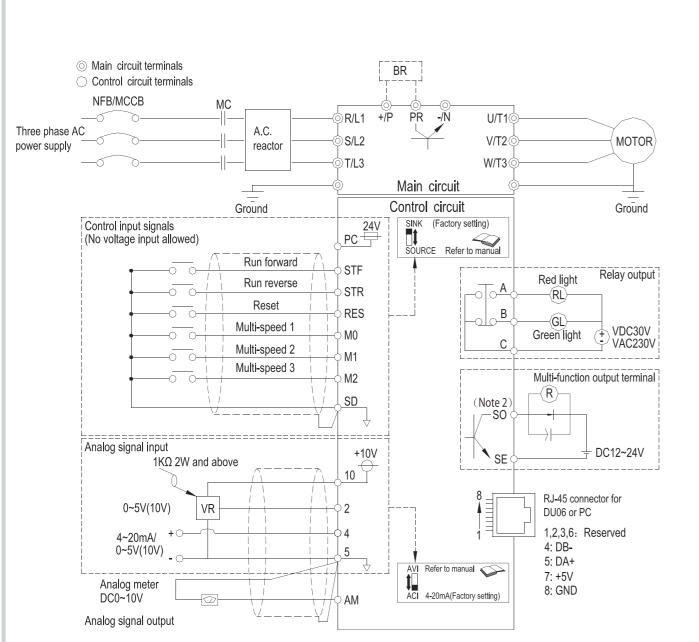
SS2

Series Economy Vector Control AC Motor Drive

Wiring Diagram



Frame A

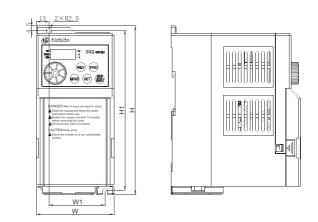


NOTE

1. For the usage of the external thermal relay, please refer to P.80~P.84, P.86 in Chapter 5 (OH)on the manual.

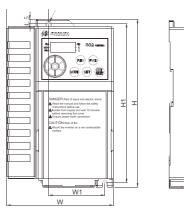
- 2. Make sure not to short circuit the PC and SD.
- 3. In the above figure, dotted line area, please refer to 3.5.7on the manual.
- 4. The SO terminal can select to FM or 10X function, please refer to P.64, P.74.

5. For single-phase series inverters, there is no T/L3 terminal, and the corresponding wiring(dotted line) doesn' t need to be connected.



Model	H(mm)	H1(mm)	W(mm)	W1(mm)	D(mm)
SS2-021-0.4K					
SS2-021-0.75K					
SS2-023-0.4K					
SS2-023-0.75K	174	165	80	58	134
SS2-023-1.5K	174	105	00	20	154
SS2-043-0.4K					
SS2-043-0.75K					
SS2-043-1.5K					

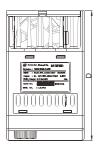
Frame B

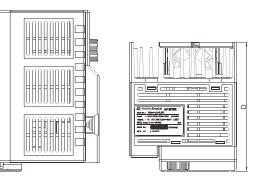


Model	H(mm)	H1(mm)		W1(mm)	D(mm)
SS2-021-1.5K					
SS2-021-2.2K					
SS2-023-2.2K					
SS2-023-3.7K	174	165	110.5	58	134
SS2-043-2.2K					
SS2-043-3.7K					
SS2-043-5.5K					











Dual-load, High Performance Vector Control AC Drive



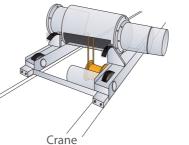
Product Range

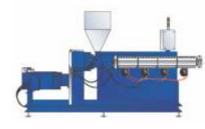
М		KW (HP)													
65 G	020 - G	3-phase 220V	120%, 150%,	$\begin{array}{c} 60s \rightarrow \\ 60s \rightarrow \end{array}$					<u>_</u>						
SF-G			120%,											~	,

Main Features

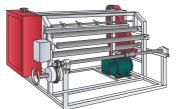
- * Dual specifications with HD: 150% 60s / LD: 120% 60s
- loop vector control, high torque output at low speed, and the best power saving control mode.
- * Increased load capacity to 200% / s
- * Embedded regeneration brake transistor(22kW or below)
- * Strengthened PID function, Multi-channel control function for fan and pump
- * RS-485 interface, selection between Shihlin protocol/standard Modbus protocol
- * Strengthened speed tracking compensation capability
- * Soft PWM function
- * Multiple function pulse output
- * Remote control panel through RJ45
- channel control function for fan and pump

Application





Extrusion Machine





Textile Equipment

* V/F control, general purpose magnetic flux vector control, SVC sensor-less vector control, FOC+PG closed

* Support various expansion boards : injection molding machine specific expansion boards, Multi-



Fan and Pump



Solder Equipment



SF-G Series Dual-load, High Performance Vector Control AC Drive

Product Features

Dual-load specifications

- Light load 120% 60s / heavy load (-G) 150% 60s. • The default capacity is light load for air conditioners, pumps, air
- compreessors, conveyors and other machines using light loads. • The parameters can be adjusted to heavy load by inner parameter setting for punches, cranes, trolleys, screw machinery, machine tools, and injection devices (by PM01 injector expansion card).

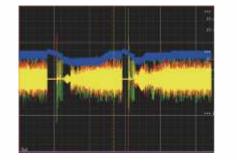
High-performance vector control technology

- A 32-bit RISC CPU for high-speed computation.
- · SVC sensorless vector control with high starting torque of 1Hz150%, and FOC+PG closed loop vector control of 0Hz 150%. Speed accuracy: less than 1% with 0-100% load variation.
- An exclusive pioneer of high-precision motor parameter autotuning function.

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10		+					-	-	-		-		-	_	-								-1
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Tracking compensation mechanism

• The enhanced tracking mechanism can detect the rotation speed and direction of motor in idle state, resulting a smooth machine start without jittering.



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Built-in brake transistor (under 22kw)

- Built-in brake transistor (under 22kw).
- · Its connection with the brake resistor to improve the braking torque capability .

Equipped with Soft-PWM mechanism

- · Soft-PWM controls the motor noises, transforming the metal sound into a delightful complex tone.
- · It provides low noise operation and reduces interference to external RF, ensuring stable operations of nearby PLC and encoder devices

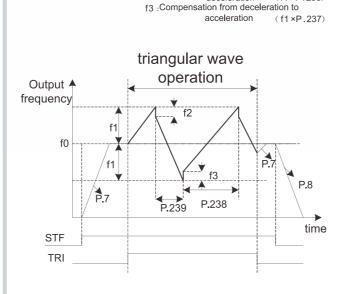
f0 : Setting value of frequency

setting frequency (f0 ×P .235) f2 : Compensation from acceleration to

deceleration

(f1 ×P.236)

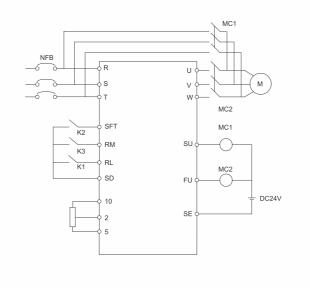
f1 : Generated amplitude for



Product Features

Equipped with grid power frequency switching mechanism

- It provides automatic switch between the grid power and frequency conversion.
- If the motor is running at rated frequency, using grid power frequency has a much better efficiency.
- In order to prevent the motor from stopping for a long time during the maintenance of AC drive, it is recommended AC drive to have bypass loop.



Operating time accumulation and parameters protection

- Time accumulation: the accumulated operating time of the AC drive can be displayed.
- · Password protection: It provide 4-digital password to restrict the read and write of parameters, and prevent operative mistakes.

Built-in RS-485 interface

- Support for MODBUS and Shihlin protocol.
- · Capable of simultaneous connections to HMI, PLC and other devices



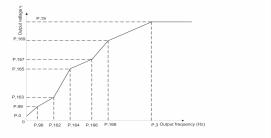
PC communication software

 This provides remote control of multiple frequency AC drive for parameters setup, copy and monitoring.

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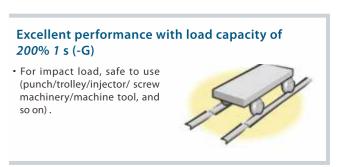
5-point V/F free setting

 It is more adaptable to various complicated load environment, such as multiple working frequencies.



Containing with 12 sets of abnormality alarm records

- The 12 sets of alarm records can be easily accessed .
- The system can record abnormal side power input(phase failure), short circuit of side output, over current, over voltage, module overheating, motor overheating, fan abnormalities, communication abnormalities, and so on.



SF-G Series Dual-load, High Performance Vector Control AC Drive

Electric Specifications

	V Series Three-phase			7 5/5 5		11/7 5		15/14		10 5/45
	Model SF- <i>020</i> -	5.5		7.5/5.5		11/7.5		15/11		18.5/15
Appli	cable motor capacity	7.5		10/7.5		15/10		20/15		25/20
	kw	5.5		7.5/5.5		11/7.5		15/11		18.5/15
0	Rated output capacity kVA	9.5		12.5/9.5		3.3/12.5		.7/18.3		28.6/24.7
Output	Rated output current A	25		33/25		49/33		55/49		75/65
Jut	Overload current rating		120%	60 seconds	/150% 60 se			naracter	istics)	
	Maximum output voltage					ase 200 - 24				
	Rated power voltage			Thr	ee-phase 20	0 - 240V 50	Hz/60Hz			
Power	Power voltage permissible fluctuation			Thr	ee-phase 18	80- 264V 50	Hz / 60Hz			
ver	Power frequency permissible fluctuation					±5%				
	Power source capacity kVA	12		17/12	1	20/17	1	28/20		34/28
Cool	ng method				Forced	l air cooling				
Inver	ter weight (kg)	5.6		5.6		7.0		8.3		9.0
	Model SF- <i>020-</i>	22/18.5		30/22		37/30		45/37		55/45
Appli	cable motor capacity	30/25		40/30		50/40		50/50		75/60
	kw	22/18.5		30/22		37/30		45/37		55/45
0	Rated output capacity kVA	34.3/28.	6	45.7/34.3		5/45.7		55/55		81/65
Output	Rated output current A	90/75		120/90		45/120		70/145		212/170
out	Overload current rating		120%	60 seconds	150% 60 sec	conds (inve	rse time ch	aracter	stics)	
	Maximum output voltage				Three-ph	ase 200 - 24	V0			
	Rated power voltage				ee-phase 20					
Pov	Power voltage permissible fluctuation			Thr	ee-phase 18	80- 264V 50I	Hz/60Hz			
Power	Power frequency permissible fluctuation					±5%				
	Power source capacity kVA	41/34		52/41	(65/52	7	79/65		99/79
Cool	ng method				Forced	l air cooling				
nver	ter weight (kg)	20		21		37		37		67
			· · ·		· · ·		-			
1 40	V Series Three-phase									
	Model SF- <i>040-</i> ㅁㅁㅁ / ㅁㅁㅁ K-G	5.5	7.5/5.5	11/7.5		18.5/	15 22/	18.5	30/22	37/3
	HP	7.5	10/7.5	15/10	20/15	25/20	30)/25	40/30	50/4
\ppli	cable motor capacity kw	5.5	7.5/5.5	11/7.5	15/11	18.5/1	5 22/	/18.5	30/22	37/3
	Rated output capacity kVA	10	14/10	18/14	25/18	29/2		1/29	46/34	56/4
õ	Rated output current A	13	18/13	24/18	32/24	38/32		5/38	60/45	73/6
Output	Overload current rating	15			150% 60 sec				-	/ 5/0
t	Maximum output voltage		120%	, so seconds		ase 380 - 48		aracter	50(5)	
	Rated power voltage			TL.	ee-phase380					
P										
Power	Power voltage permissible fluctuation			inr	ee-phase 34		12 / OUFIZ			
24	Power frequency permissible fluctuation	11.5	16/115	20/17		±5%	,	(22	52/41	(F)=
<u> </u>	Power source capacity kVA	11.5	16/11.5	20/16	27/20	32/2		/32	52/41	65/5
	ng method	F 4	F (F /		l air cooling			25	
nver	ter weight (kg)	5.6	5.6	5.6	5.6	8.3	8	3.3	25	25
	Model SF- <i>040-</i> ㅁㅁㅁ / ㅁㅁㅁ K-G	45/37		75/.		90/75	110/90		132/110	
	HP HP	60/50	75/60	100/	75 12	20/100	150/120)	175/150	215/1
4ppli	cable motor capacity kw	45/37	55/45	75/		90/75	110/90		132/110	160/1
	Rated output capacity kVA	69/56	84/69	114/		37/114	168/137		198/168	236/1
Outp	Rated output current A	91/73	110/91	150/		80/150	220/180		260/220	310/2
Itpc	Overload current rating	2.775			150% 60 see					010/2
out	Maximum output voltage		1207			ase 380 - 48		accel		
	Rated power voltage			The	ee-phase38					
P					-					
Power	Power voltage permissible fluctuation			Th	ee-phase 34		12/0UHZ			
- P	Power frequency permissible fluctuation	70//-	4.000 /= 1			±5%	10000	,	100/177	2.45
_	Power source capacity kVA	79/65	100/79	110/		37/110	165/137	r	198/165	247/1
	ng method					air cooling				1
Inver	ter weight (kg)	25	37	37	·	37	67		67	67
	Model SF- <i>040</i> - ㅁㅁㅁ / ㅁㅁㅁ K-G	185/160	220/	185	250/220	280	/250	<u>315</u>	/280	355/315
	HP	250/215	300/	250	335/300		/335		/375	475/420
Appli	cable motor capacity kw	185/160	220/		250/220		/250		/280	355/315
	Rated output capacity kVA	295/236	367/		402/367	438			/438	544/491
	Rated output current A	340/310	425/		480/425		/480		/530	683/620
p		5-0/510			/ 150% 60 se					003/020
Outp			120%	ou seconds,				nardCle	iisucs)	
Output	Overload current rating				inree-pha	ase 380 ~ 48				
Output	Overload current rating Maximum output voltage					1 AQOV EO	H7/60H7			
	Overload current rating Maximum output voltage Rated power voltage				ee-phase 380					
	Overload current rating Maximum output voltage Rated power voltage Power voltage permissible fluctuation				ee-phase 342	2 ~ 528V 50				
	Overload current rating Maximum output voltage Rated power voltage				ee-phase 342					
	Overload current rating Maximum output voltage Rated power voltage Power voltage permissible fluctuation	295/247	367/	Thre	ee-phase 342	2~528V50 ±5%		491	/438	544/491
Power	Overload current rating Maximum output voltage Rated power voltage Power voltage permissible fluctuation Power frequency permissible fluctuation	295/247	367/	Thre	ee-phase 342 402/367	2~528V50 ±5%	Hz / 60Hz /402	491	/438	544/491

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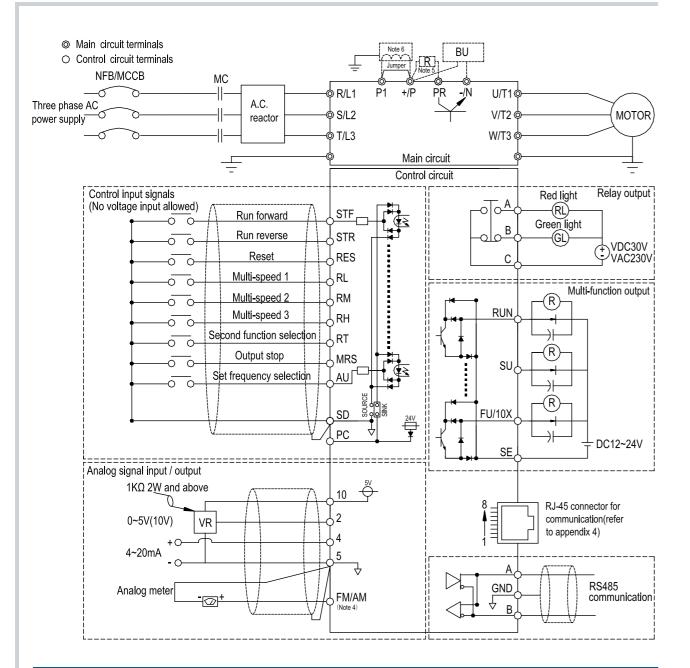
Common Specifications

Contr	ol method			M control , V/F cor less vector control				
Outpu	ut frequency range		0.2-400	0Hz (The starting fr				
Resol	ution for setting	Digital setting		requency set value s above 100Hz, the				
frequ	ency	Analog setting		setting DC 0-5V sig setting DC 0-10V or				
Outp	out frequency	Digital setting	Maxim	um target frequen				
accura	асу	Analog setting	Maxim	um target frequen				
	ge I frequency out cteristics	out		oltage (P.19), base and applicable loa				
Start t	orque		150%	1 H z : When the sen				
Torqu	e boost		The to	rque boost setting				
	leration / decele cteristics	eration curve	The resolution (0.01s/0 setting range has 0~3 curve model can be se					
DC br	aking			braking action fre g voltage is 0-30%				
Stall o	urrent protection		The sta	alling protection lev				
Targe	t frequency setting			tion panel setting; evel setting, comm				
PID co	ontrol		Please	refer to manual P.1				
Multi-	function control te	rminals	extern	starting (STF, STR) al thermal relay (O d P.126~P.128).				
	Multi-function	SU, SE	P.40					
0	output	RUN, SE	P.129	Inverter runnin				
utpu	terminals	FU/10X , SE	P.130	frequency (SU) (ALARM), section				
Output terminsl	Multi-function output relay	А ,В ,С	P.85	detection (PO3				
nsl	Analog output	AM,5	Multi-f	unction DC (0-10V)				
	Pulse output	FM,SD	Outpu	t the pulse of 0-230				
0	Operation monitor	oring		t frequency monit nality record (Maxi				
Operation Panel	LED indication la	mp(8)	indicat mode	rd rotation indicat tion lamp, voltage switching indicatio l indication lamp				
Comn	nunication functior	ı	RS-485	communication, c				
Proteo	ction mechanism /	alarm function	under-	t short circuit prote voltage protection unication abnorma				
	Ambient tempera	ature	-10~+4	10°C (non-freezing)				
	Ambient humidit	у	Below	90%Rh (non-conde				
	Storage temperat	ture	-20 ~ +	-65°C				
Ē	Surrounding envi	ironmen	Indoor	, no corrosive gas, r				
Environmental Condition	Altitude and vibra	ation	Altitud	le: below 1000 me				
ental on	Grade of protecti	on	IP20					
_	The degree of environmental po		2					
	Class of protection		Class I					
Intern	ational certification		(6	(Except the type				

ontrol, close-loop V/F control (VF+PG), general flux vector control, l (SVC), close-loop vector control (FOC+PG)
frequency setting range is 0-60Hz)
ue is below 100Hz, the resolution will be 0.01 Hz; If the frequency set e resolution will be 0.1 Hz
gnals, the resolution will be 1/500 ; or 4-20mA signals, the resolution will be 1/1000
ncy :±0.01 %
ncy :±0.5%
e frequency (P.3) can be arbitrarily set ; Constant torque ad model can be selected (P.14)
nsorless vector control is started
g range is 0-30% (P.0), auto boost, slip compensation
1s) of acceleration/deceleration time (P.7, P.8) is switched by P.21. The 0s or 0~3600s for selection. And different acceleration/deceleration cted by P.29.
requency is 0-120Hz (P.10); the DC braking time is 0- 60s (P.11) The DC 6 (P.12).Linear braking and idling braking selection (P.71)
evel can be set to 0-400% (P.22)
; DC 0-5V signal, DC 0-10V signal, DC 4-20 mA signal, multiple speed nunication setting
170-P.182 in Chapter 5
R), the second function (RT), 16-speed operation (RH, RM, RL, REX), OH), reset (RES),etc.(they can be set by the user with P.80~P.84,
ng (RUN), output frequency detection (FU), Up to output
J), overload alarm (OL), zero current detection (OMD), alarm tion detection (PO1), periodical detection (PO2), and pause 3).
tion detection (PO1), periodical detection (PO2), and pause
tion detection (PO1), periodical detection (PO2), and pause 3).
tion detection (PO1), periodical detection (PO2), and pause 3). /) output: output frequency, current (P.54)
tion detection (PO1), periodical detection (PO2), and pause (3). // output: output frequency, current (P.54) 800Hz itoring, output current monitoring, and output voltage monitoring,
tion detection (PO1), periodical detection (PO2), and pause (3). // output: output frequency, current (P.54) 800Hz itoring, output current monitoring, and output voltage monitoring, kimum 12 sets) ation lamp, reverse rotation indication lamp, frequency monitoring e monitoring indication lamp, current monitoring indication lamp,
tion detection (PO1), periodical detection (PO2), and pause (3). (4) output: output frequency, current (P.54) (300Hz (300Hz (300Hz)
tion detection (PO1), periodical detection (PO2), and pause (3). (4) output: output frequency, current (P.54) (500Hz (500Hz)
tion detection (PO1), periodical detection (PO2), and pause (3). (4) output: output frequency, current (P.54) (300Hz (300Hz)
tion detection (PO1), periodical detection (PO2), and pause (3). (4) output: output frequency, current (P.54) (300Hz (300Hz)
tion detection (PO1), periodical detection (PO2), and pause (3). (4) output: output frequency, current (P.54) (300Hz (300Hz)
tion detection (PO1), periodical detection (PO2), and pause (3). (4) output: output frequency, current (P.54) (3). (3). (3). (3). (3). (4) output: output frequency, current (P.54) (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (4)
tion detection (PO1), periodical detection (PO2), and pause (3). (4) output: output frequency, current (P.54) (3). (3). (3). (3). (3). (4) output: output frequency, current (P.54) (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (4)
tion detection (PO1), periodical detection (PO2), and pause (3). (4) output: output frequency, current (P.54) (3). (3). (3). (3). (3). (4) output: output frequency, current (P.54) (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (4)
tion detection (PO1), periodical detection (PO2), and pause (3). (4) output: output frequency, current (P.54) (3). (3). (3). (3). (3). (4) output: output frequency, current (P.54) (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (3). (4)

SEGSERIES Dual-load, High Performance Vector Control AC Drive

Wiring Diagram



NOTE

- 1. Please refer to chapter 5 of the service manual for external thermal overload relay installation.
- 2. Make sure not to short PC and SD.
- 3. The DC reactor between +/P and P1 is optional. Please short +/P and P1 when DC reactor is not used.
- 4. When selecting FM function for the FM/AM output terminal, the reference ground is SD. For more details, please refer to P.64.
- 5. The brake resistor connection approach between +/P and PR is for frames A and B only. For connecting the brake unit of frame C, D, E, F to between +/P and -/N, please refer to terminal arrangement in 3.4.5
- 6. Inverters corresponding to frame C、E、F have build-in DC reactors, you can also refer to DC reactor specification on the manual before adding DC reactors in addition. (When adding DC reactors, please remove the short circuit piece between P1 and +/P.)

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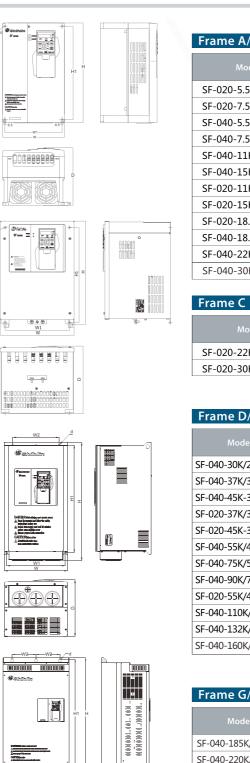
Dimensions

Frame A/B

Frame C

Frame D/E/F

Frame G/H





/В																	
Frame	H (mm)	H <i>1</i> (mm)	W (mm)	W <i>1</i> (mm)	D (mm)												
	323	303	200	186	186												
- A																	
						В	350	330	230	214	195						
													A	A 323	Frame (mm) (mm) A 323 303	Frame (mm) (mm) A 323 303 200	Frame (mm) (mm) (mm) A 323 303 200 186

-							
lodel	Frame	H (mm)	H <i>1</i> (mm)	W (mm)	W <i>1</i> (mm)	D (mm)	
2K-18.5K-G	C	379	348	271	236	248	
0K/22K-G	C	3/9	540	2/1	230	240	

D/E/F									
lel	Frame	H (mm)	H <i>1</i> (mm)	W (mm)	W <i>1</i> (mm)	W2 (mm)	D (mm)	d (mm)	
/22K-G									
/30K-G	D	561	510	300	277	220	270	9	
-37K-G	1								
/30K-G									
-37K-G		E 595	566	370	336	336	286	13	
/45K-G	E								
/55K-G									
/75K-G									
/45K-G									
K/90K-G	F	950	0.21	425	201	201	206	12	
K/110K-G		850	821	425	381	381	286	13	
K/132K-G									

6/H								
lel	Frame	H (mm)	H <i>1</i> (mm)	W (mm)	W <i>1</i> (mm)	W2 (mm)	D (mm)	d (mm)
K/160K-G	G							
K/185K-G		870	850	500	180	180	360	13
K/220K-G								
K/250K-G								
K/280K-G	Н	1000	000	600	220	220	400	12
K/315K-G		1000	980	600	230	230	400	13

Optional Equipment

SE3/SA3

Series

DN301

PD302 Profibus communication expansion board





CP301 CANopen communication expansion board

EB308R

I/O expansion board



EP301 Ethernet communication expansion board



EtherCAT communication

expansion board

EC301

I/O expansion board

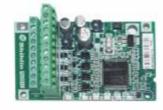
EB362R



PG301C (SE3/SA3 Only) Speed feedback board (supports

open collector type output)

PG301L (SE3/SA3 Only) Speed feedback board (supports differential type output)



Braking Unit(BKU)



SF-G_{Series}





PM01





Keypad

PU301 (SC3/SE3/SA3)



DU06 (SS2/SC3)







PG302L (SE3/SA3 Only)

Speed feedback board (supports Resolver signal)



47



Cooperate with SE3 series to





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WS01

Fan and water pump Multi-channel control board



PU301C (SA3)



PU302 (SE3)



DU10 (SS2/SC3)



DU09S (SFG)

