Shihlin

Shihlin AC Drives

SA3 High Performance Vector Control AC Drive

220V Series 0.75KW～75KW
440V Series 0.75KW～315KW

www.seec.com.tw

Contents

SA3 Series

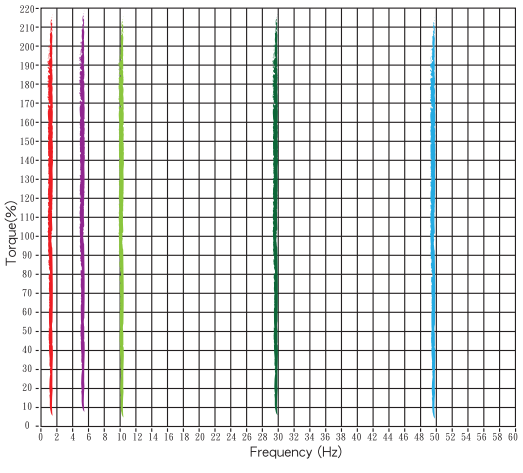
Product Range

Model		KW (HP)	0.75 (1)	1.5 (2)	2.2 (3)	3.7 (5)	5.5 (7.5)	7.5 (10)	11 (15)	15 (20)	18.5 (25)	22 (30)	30 (40)	37 (50)	45 (60)	55 (75)	75 (100)	90 (120)	110 (150)	132 (175)	160 (215)	185 (250)	220 (300)	250 (335)	280 (375)	315 (420)
SA3	SA3-023	3 Phase 220V																							
	SA3-043	3 Phase 440V																							

Product Features

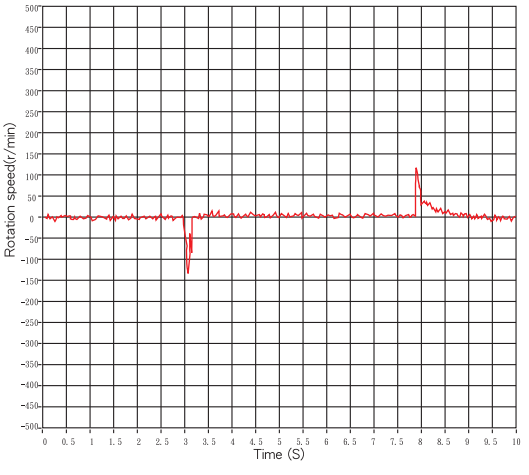
High Performance Vector Control Technology

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



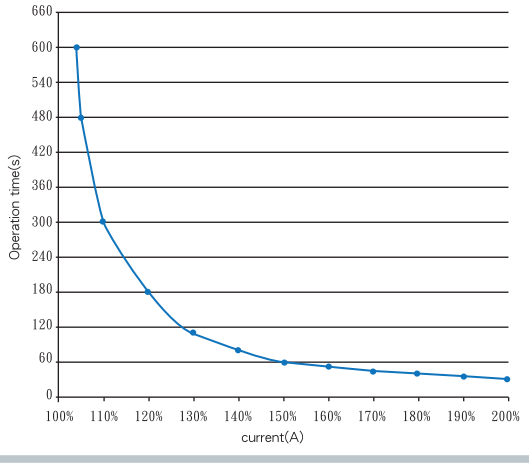
High Response Performance

- Speed accuracy: less than 1% with 0 to 100%load variation.
- For applications with sudden load changes such as cranes and metal processing machinery.



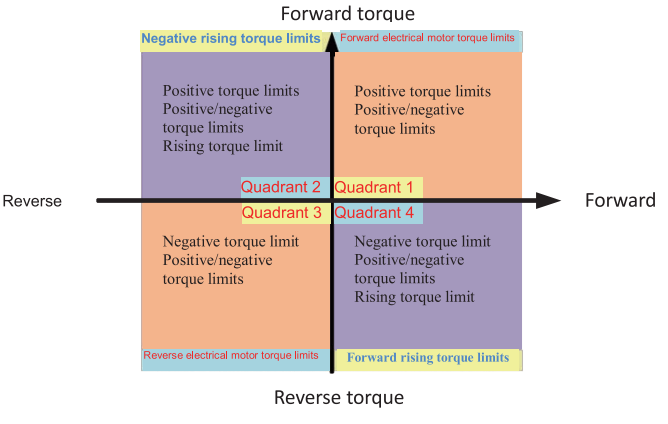
High Overload Capacity

- Greatly improved overload capacity to 150% for 60 seconds and 200% for 3 seconds, making it suitable for tooling machinery applications that requires the ability to handle sudden load changes.



4-Quadrant Torque Control and Limits

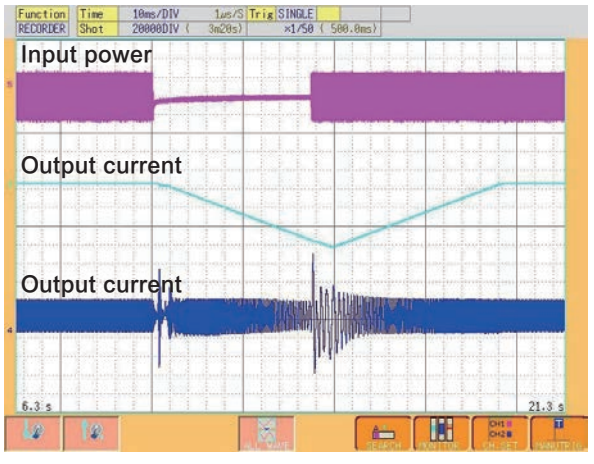
- Parameters or analog signals can be used to simply establish limits for 4 torque items.



Product Features

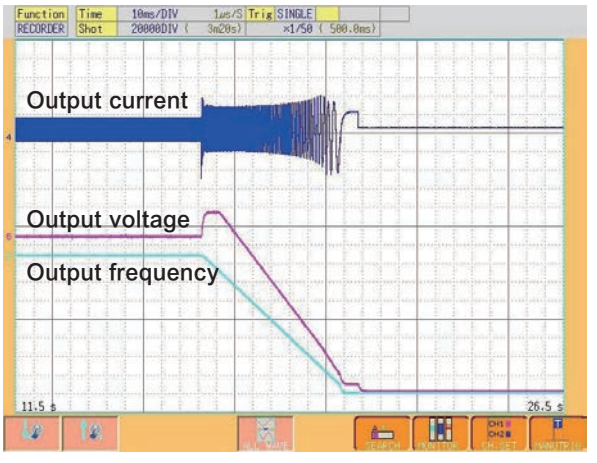
Temporary Compensation at Low Voltage

- During temporary power disruptions, output frequency can be controlled in order to maintain the DC bus voltage of the AC drive to control motor deceleration or stoppage.
- When power is restored, the AC drive will carry out re-acceleration to attain the frequency prior to power stoppage .
- May be applied to equipment that are not permitted to operate when idle.



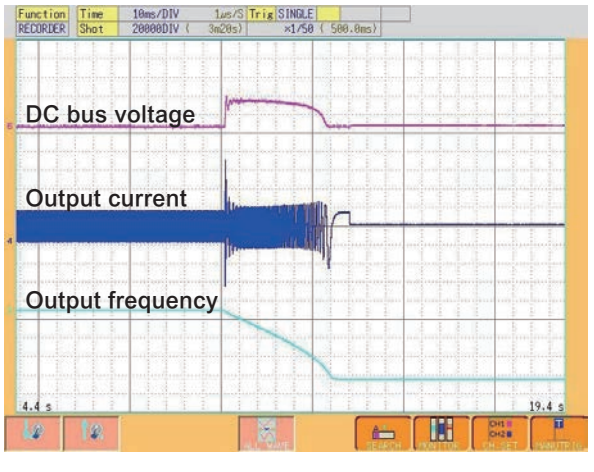
Magnetic Flux Brake

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



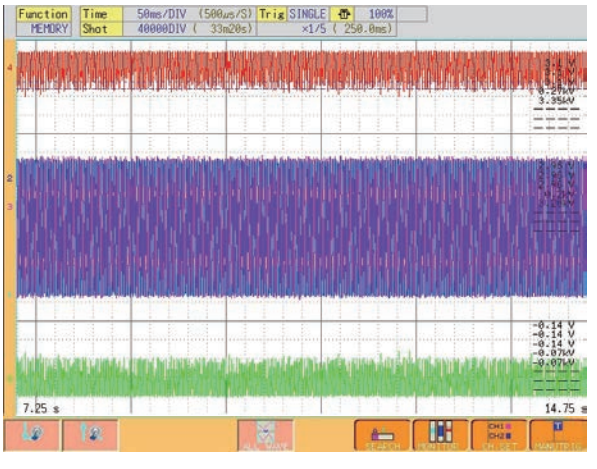
Regeneration Avoidance Functions

- By adjusting output frequency and voltage, AC drive DC bus voltage can be kept at a specified value and prevent overvoltage.



Low-noise Carrier Wave Control (Soft-PWM)

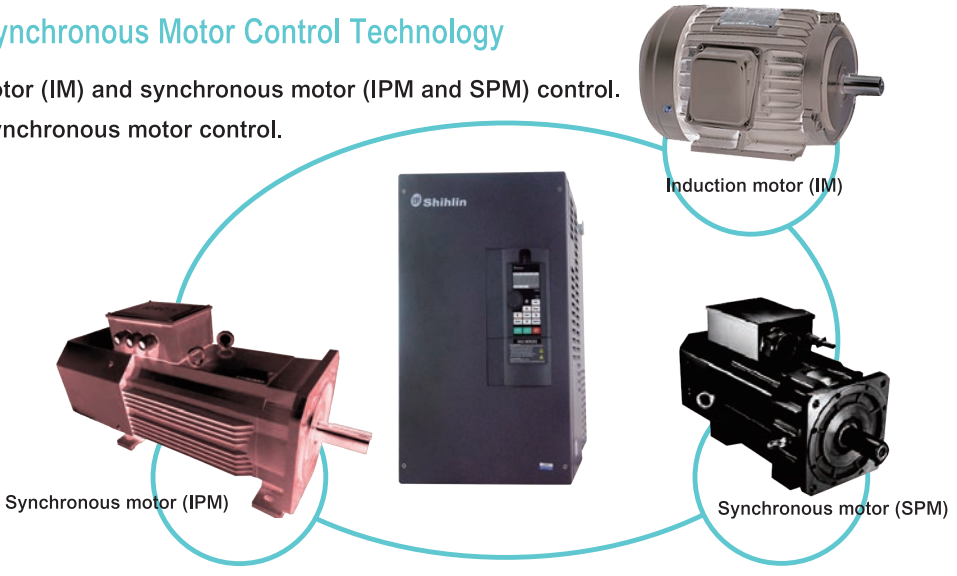
- Motor noise is controlled so that the metallic sound is transformed into a more pleasing buzz.
- Low noise operations to reduce the interference exerted upon external radio frequencies.



Product Features

High Performance Synchronous Motor Control Technology

- Supports induction motor (IM) and synchronous motor (IPM and SPM) control.
- Supports open loop synchronous motor control.

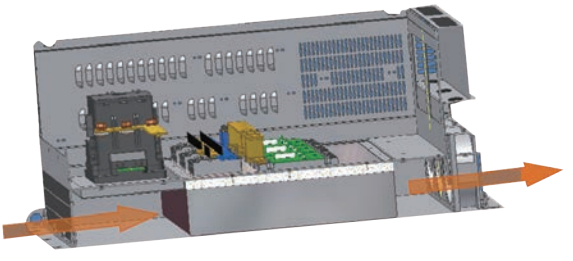


LCD Operation Interface

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

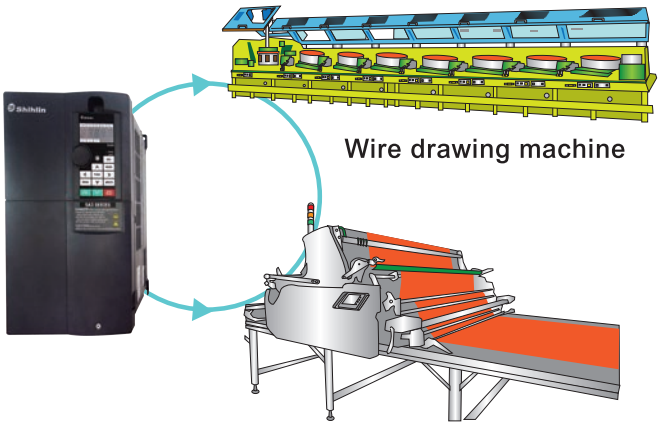
Isolated air Channel Designs

- 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.



Supports Multiple Control Modes for Different Applications

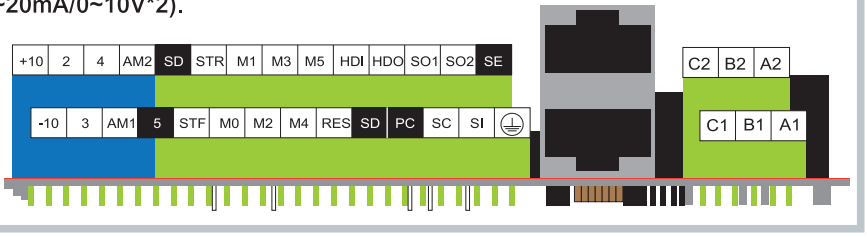
- Internal position control, torque control, speed control, and tension control functions.
- I/O switching can be used to initiate simple mixed controls over speed and torque as well as speed and location.
- Position control is capable of supporting home position return mode, zero-servo control, and single-axis position control mode (must be used with PG301C, PG301L, and PG302L).
- Supports open-loop tension control, feeding disruption inspection, and automatic spool replacement functions.



Product Features

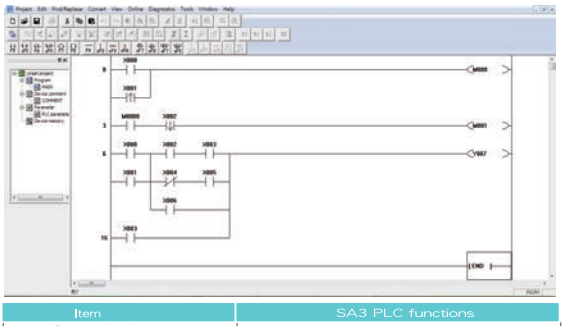
Multiple I/O Terminals

- 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).
- 1 set of safety switch (S1~SC).



Built-in PLC Functions

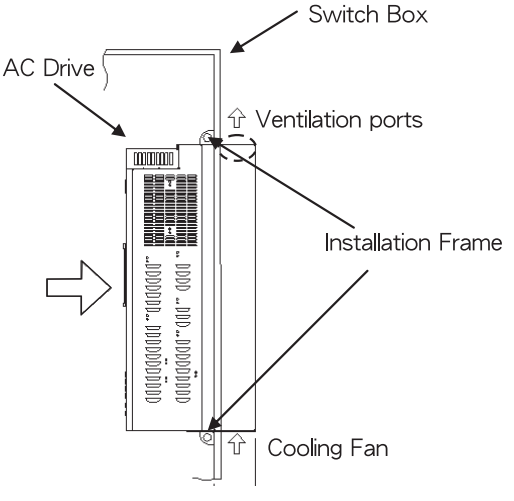
- Provides PLC programming software for easy editing program.
- Applicable for programming for small number of point sand capable of supporting multiple functions.



Item		SA3 PLC functions
Programming Language		Ladder diagram + Command
Basic commands		21
Applicable commands		14
Processing speed	Basic commands	1 μs
	Applicable commands	10 μs
Hidden program capacity		400 steps(0-399 steps)
I/O configuration	Input(X)	22 points(X0~X25, octal)
	Output(Y)	20 points (Y0~Y23, octal)
Supporting electric relay (M)	General	160 points, M0~M159
	Battery backed	80 points, M160~M239
	Special	64 points, M8000~M8063
Timer(T)	100ms	8 points, T0~T7, timer range: 0~6553.5 seconds
Counter(C)		8 points, C0~C7, counting range: 0~65535
Data register	General	32 points, D0~D31
	Battery backed	16 points, D32~D47
	Special	64 points, D8000~D8063

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.

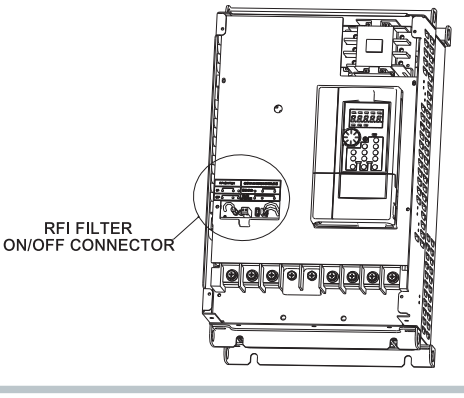


12 Sets of Alarm Records

- For each alarm that occurs, the output frequency, output current, output voltage, accumulated count of temperature increase, PN voltage, total AC drive operation time, AC drive operational status, and the year, month, day, hour, minute, and second of the alarm will be recorded (only when used with PUC031C).

SA3 All-Series built-in RFI Filter

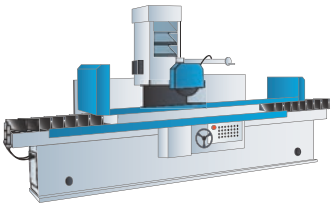
- RFI is capable of suppressing electromagnetic interference.

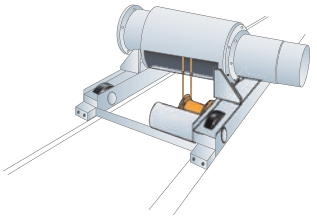


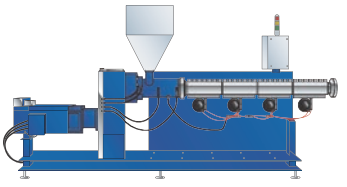
Improved Protection

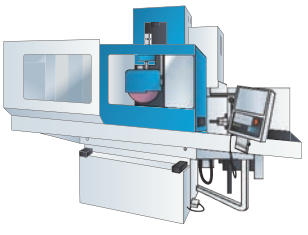
- Output phase failure protection, output short circuit protection, ground leakage protection, low voltage protection, motor overheating signal (PTC), and electrolytic capacitor life inspection.

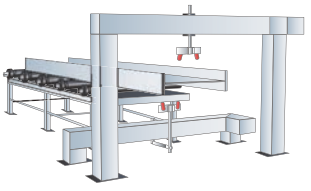
Applicable Industries

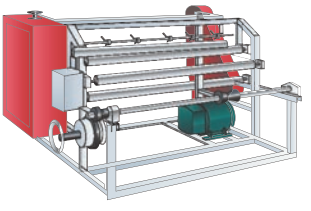

Grinding Machine


Cranes


Extrusion Machine


Grinding Machine


Constant Pressure Pump


Slitting Machine

Electrical Specifications

220V Three-phase Series

Frame			A				B			C		D			E		F
Model SA3-023-□□□K□-□□			0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75
Output	HD	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
		Rated output current (A)	5	8	11	17.5	25	33	49	65	75	90	120	145	170	215	288
		Applicable motor capacity (HP)	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100
		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
		Overload current rating	150% 60 seconds 200% 3seconds (inverse time characteristics)														
		Carrier frequency (kHz)	1~15kHz									1~9kHz					
	ND	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
		Rated output current (A)	8	11	17.5	25	33	49	65	75	90	120	145	170	215	288	346
		Applicable motor capacity (HP)	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	120
		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
		Overload current rating	120% 60seconds (inverse time characteristics)														
		Carrier frequency (kHz)	1~15kHz									1~9kHz					
	Maximum output voltage		Three-phase 200-240V														
Power supply	Rated power voltage		Three-phase 200-240V 50Hz / 60Hz														
	Power voltage permissible fluctuation		Three-phase 170-264V 50Hz / 60Hz														
	Power frequency permissible fluctuation		±5%														
	Power source capacity (kVA)		2.5	4.5	6.4	10	12	17	20	28	34	41	52	65	79	100	110
Cooling method			Self cooling	Forced air cooling													
Weight (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

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

Electrical Specifications

440V Three-phase Series

Frame			A					B			C			D
Model SA3-043-□□□K□-□□			0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37
Output	HD	Rated output capacity (kVA)	2	3	4.6	6.9	10	14	18	25	29	34	46	56
		Rated output current (A)	3.0	4.2	6	9	12	17	24	32	38	45	60	73
		Applicable motor capacity (HP)	1	2	3	5	7.5	10	15	20	25	30	40	50
		Applicable motor capacity (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37
		Overload current rating		150% 60 seconds 200% 3seconds (inverse time characteristics)										
		Carrier frequency (kHz)	1～15kHz											1~9kHz
	ND	Rated output capacity (kVA)	3	4.6	6.9	10	14	18	25	29	34	46	56	69
		Rated output current (A)	4.2	6	9	12	17	24	32	38	45	60	73	91
		Applicable motor capacity (HP)	2	3	5	7.5	10	15	20	25	30	40	50	60
		Applicable motor capacity (kW)	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45
		Overload current rating	120% 60seconds (inverse time characteristics)											
		Carrier frequency (kHz)	1～15kHz											1~9kHz
	Maximum output voltage		Three-phase 380-480V											
Power supply	Rated power voltage		Three-phase 380-480V 50Hz / 60Hz											
	Power voltage permissible fluctuation		Three-phase 342-528V 50Hz / 60Hz											
	Power frequency permissible fluctuation		±5%											
	Power source capacity (kVA)		2.5	4.5	6.9	10.4	11.5	16	20	27	32	41	52	65
Cooling method			Self cooling	Forced air cooling										
Weight (kg)			3.15	3.15	3.15	3.15	3.15	6	6	6	9.8	9.8	9.8	33

Frame			D			E		F	G				H	
Model SA3-043-□□□K□-□□			45	55	75	90	110	132	160	185	220	250	280	315
Output	HD	Rated output capacity (kVA)	69	84	114	137	168	198	236	295	367	402	438	491
		Rated output current (A)	91	110	150	180	220	260	310	340	425	480	530	620
		Applicable motor capacity (HP)	60	75	100	120	150	175	215	250	300	335	375	420
		Applicable motor capacity (kW)	45	55	75	90	110	132	160	185	220	250	280	315
		Overload current rating	150% 60 seconds 200% 3seconds (inverse time characteristics)											
		Carrier frequency (kHz)	1~9kHz										1~6kHz	
	ND	Rated output capacity (kVA)	84	114	137	168	198	236	295	367	402	438	491	544
		Rated output current (A)	110	150	180	220	260	310	340	425	480	530	620	683
		Applicable motor capacity (HP)	75	100	120	150	175	215	250	300	335	375	420	475
		Applicable motor capacity (kW)	55	75	90	110	132	160	185	220	250	280	315	355
		Overload current rating	120% 60seconds (inverse time characteristics)											
		Carrier frequency (kHz)	1~9kHz										1~6kHz	
	Maximum output voltage		Three-phase 380-480V											
Power supply	Rated power voltage		Three-phase 380-480V 50Hz / 60Hz											
	Power voltage permissible fluctuation		Three-phase 342-528V 50Hz / 60Hz											
	Power frequency permissible fluctuation		±5%											
	Power source capacity (kVA)		79	100	110	137	165	198	247	295	367	402	438	491
Cooling method				Powered fan-cooling										
Weight (kg)			33	33	33	42.7	42.7	56.5	84	84	84	84	123	123

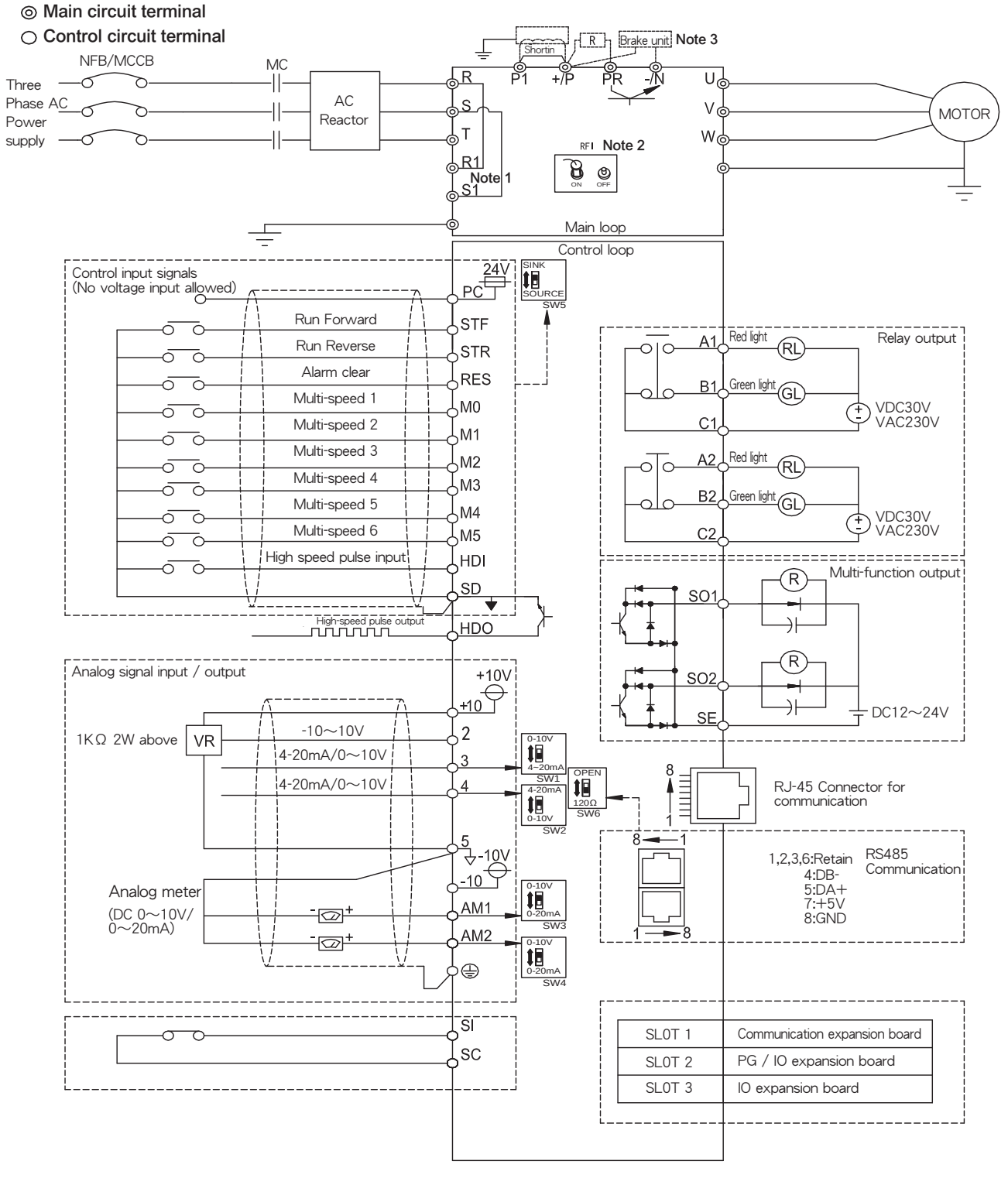
Note : The test conditions of rated output current, rated output capacity and AC Drive power consumption are: the carrier frequency (P.72) is at the set value; the AC Drive output voltage is at 440V; the output frequency is at 60Hz, and the ambient temperature is 40℃.

General Specifications

Control method		SVPWM control, V/F control, close-loop V/F control (VF+PG), general flux vector control, sensorless vector control (SVC), close-loop vector control (FOC+PG), torque control (TQC+PG).
Output frequency range		0~650.00Hz
Frequency setting resolution	Digit setting	The resolution is 0.01Hz.
	Analog setting	0.01Hz/60Hz(Terminal 2：-10～+10V／13bit) 0.015Hz/60Hz(Terminal 2：0～±10V／12bit；Terminal 3：0~10V、4-20mA／12bit) 0.03Hz/60Hz(Terminal 2、3：0～5V／11bit) 0.06Hz/60Hz(Terminal 4：0~10V、4-20mA／10bit) 0.12Hz/60Hz(Terminal 4：0～5V／9bit)
Output frequency accuracy	Digit setting	Maximum target frequency ±0.01%.
	Analog setting	Maximum target frequency ±0.1%.
Speed control 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 characteristics		Constant torque curve, variable torquecurve, five-point curve, VF separation.
Acceleration / deceleration curve characteristics		Linear acceleration /deceleration curve, S pattern acceleration /deceleration curve1 & 2 & 3.
Driving motor		Induction motor (IM), permanent magnet motor (SPM and IPM).
Stall current protection		The stalling protection level can be set to 0~400% (06-01(P.22). The default value is 150%.
Target frequency setting		Parameter unit setting, DC 0~5V/10V signal, DC -10~+10V signal, DC 4~20 mA signal, multiple speed stage level setting, communication setting, HDI setting.
PID control		Please refer to 08-00~08-01、08-04~08-14 / P.170~P.182 in chapter 4.
Built-in simple PLC		Supports 21 basic instructions and 14 application instructions, including PC editing software.
Parameter unit	Operation monitoring	Output frequency, output current, output voltage, PN voltage, output torque, electronic thermal accumulation rate, temperature rising accumulation rate, output power, Analog value input signal, digital input and output terminal status…; alarm history 12 groups at most, the last group of alarm message is recorded.
	LED indication lamp (10)	Forward rotation indication lamp, reverse rotation indication lamp, frequency monitoring indication lamp, voltage monitoring indication lamp, current monitoring indication lamp, NET indication lamp, PU control indication lamp, EXT indication lamp, PLC indication lamp and MON monitoring indication lamp.
Communication functions		RS-485 communication, can select Shihlin/Modbus communication protocol, communication speed 38400bps or below, built-in CanOpenprotocol(SA3-CP301 expanded board can be optional), double RJ-45 connectors(the connector can also be connected to parameter unit).
Protection mechanism / alarm function		Output short circuit protection, Over-current protection, over-voltage protection, under-voltage protection, motor over-heat protection (06-00(P.9)), IGBT module over-heat protection, communication abnormality protection, PTC temperature protection etc, electrolytic capacitor overheat, input and output phase failure, to-earth (ground) leakage currents protection, circuit error detection…
Environment	Ambient temperature	-10 ~ +50℃ (non-freezing), please refer to 3.4.5 Class of protection and operation temperature for details.
	Ambient humidity	Below 90%Rh (non-condensing).
	Storage temperature	-20 ~ +65℃.
	Surrounding environment	Indoors, no corrosive gases, no flammable gas, no flammable powder.
	Altitude	Altitude below 3000 meters,when altitude is above 1,000 m,derate the rated current 2% per 100 m Note 1: according to the safety of CE certification to meet specification EN61800-5-1, this series of frequency converter, using at an altitude of less than 3000 m, can be installed under the environment that could satisfy the requirement of the overvoltage level II, while using at an altitude of less than 2000 m, can be installed in conditions that could satisfy the requirement of overvoltage level III worse environment.
	Vibrations	Vibration below 5.9m/s2 (0.6G).
	Grade of protection	Frame A, B, CIP20 / NEMA TYPE 1, Frame D and above IP00 / UL OPEN TYPE(IP20 option can be selected).
	The degree of environmental pollution	2
	Class of protection	Class I
International certification		CE, C-TICK(in certificating).

Blue text indicate AC drive parameters. For details, please refer to the SA3 instruction manual

Wiring Diagram

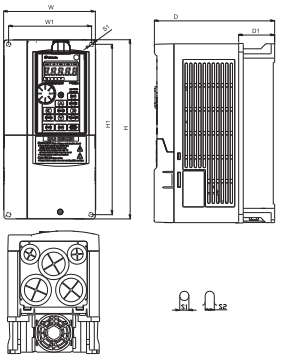


NOTE

1. Please refer to the Section 5.4.1 for the applications of external thermal overload relay.
2. Make sure that 10, -10, SD, SE, 5 and PC are not shorted each other.
3. The DC resistor between +/P and P1 is optional. Please short +/P and P1 when AC resistor is not used.
4. 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.
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.

Dimensions

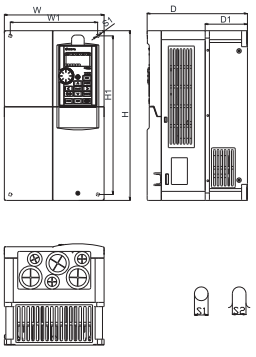
Frame A



Frame A

Model type	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)
SA3-043-0.75K	130.0	116.0	250.0	236.0	170.0	51.3	6.2	6.2
SA3-043-1.5K								
SA3-043-2.2K								
SA3-043-3.7K								
SA3-043-5.5K								
SA3-023-0.75K								
SA3-023-1.5K								
SA3-023-2.2K								
SA3-023-3.7K								

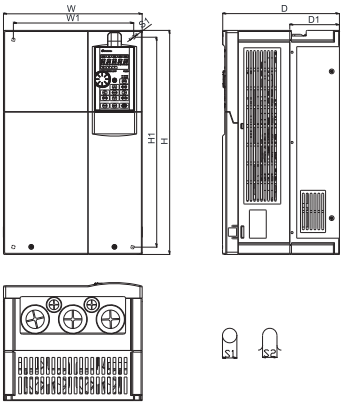
Frame B



Frame B

Model type	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)
SA3-043-7.5K	190.0	173.0	320.0	303.0	190.0	80.5	8.5	8.5
SA3-043-11K								
SA3-043-15K								
SA3-023-5.5K								
SA3-023-7.5K								
SA3-023-11K								

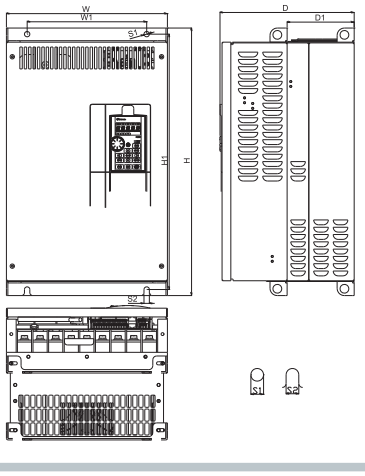
Frame C



Frame C

Model type	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)
SA3-043-18.5K	250.0	231.0	400.0	381.0	210.0	89.5	8.5	8.5
SA3-043-22K								
SA3-043-30K								
SA3-023-15K								
SA3-023-18.5K								

Frame D

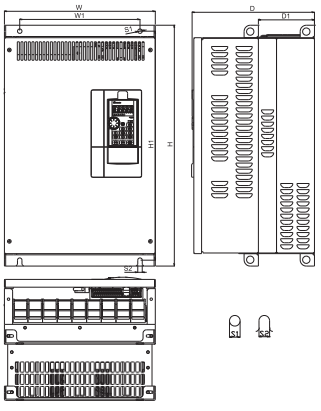


Frame D

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

Dimensions

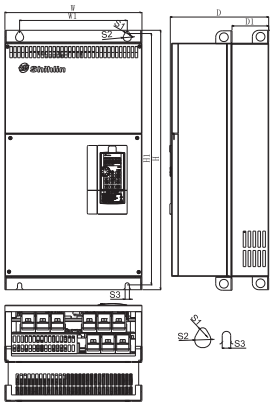
Frame E



Frame E

Model type	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)
SA3-043-90K	370.0	295.0	589.0	560.0	300.0	137.5	11.0	11.0
SA3-043-110K								
SA3-023-45K								
SA3-023-55K								

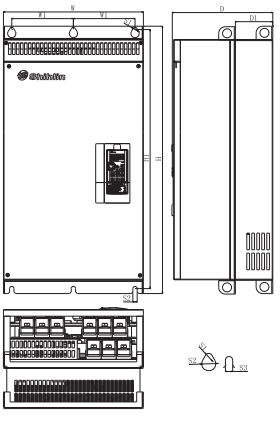
Frame F



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	420.0	340.0	800.0	770.0	300.0	145.5	13.0	25.0	13.0
SA3-023-75K									

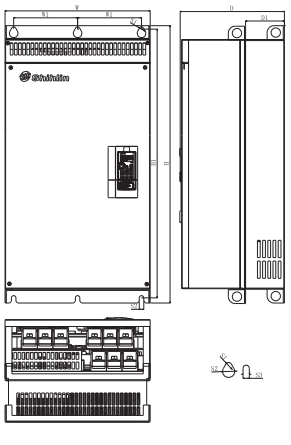
Frame G



Frame G

Model type	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)	S3 (mm)
SA3-043-160K	500.0	180.0	870.0	850.0	360.0	150.0	13.0	25.0	13.0
SA3-043-185K									
SA3-043-220K									
SA3-043-250K									

Frame H



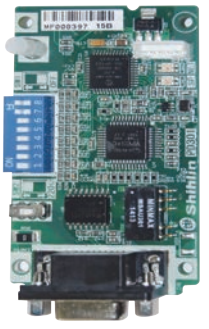
Frame H

Model type	W (mm)	W1 (mm)	H (mm)	H1 (mm)	D (mm)	D1 (mm)	S1 (mm)	S2 (mm)	S3 (mm)
SA3-043-280K	600.0	230.0	1000.0	980.0	400.0	181.5	13.0	25.0	13.0
SA3-043-315K									

Optional Accessories

PD301
PROFIBUS communication expansion board

Terminal type	Terminal name	Functions	Description
DB9	1	—	---
	2	—	---
	3	Rxd/Txd-P	Data receiving /transmission-P
	4	CNTR-P(Note 2)	Control-P
	5	DGND	Data Ground
	6	VP(Note 1)	Positive voltage
	7	—	---
	8	Rxd/Txd-N	Data receiving /transmission-N
	9	—	---
(Note 1) This signal is only required for the cable bus terminal			
(Note 2) These signals are optional			



DN301
DeviceNet communication expansion board

Terminal label	Signal	Description
V+	V+	DC24V
CAN+	CAN+	Positive signal line
SH	SHIELD	Grounding line
CAN-	CAN-	Cover signal line
V-	V-	0V

CP301
CANopen communication expansion board

Pin	Signal	Description
1	CAN_H	CAN_H bus line (dominant high)
2	CAN_L	CAN_L bus line (dominant low)
3	CAN_GND	Grounding port/0V/V-
7	CAN_GND	Grounding port/0V/V-

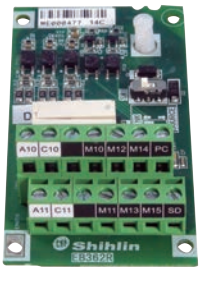
Connector	RJ-45
Port number	2 Port
Transmission mode	CAN
Transmission line	Uses CAN standard line
Transmission speed	1M 500k 250k 125k 100k 50k
Network communication protocol	CANopen protocol

RJ-45 pin definitions

Socket
Functional
specifications

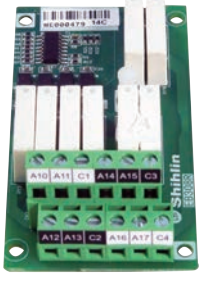
EB362R
I/O expansion board

Terminal type	Terminal name	Descriptions and functions	Terminal specifications
Switch signal input	M10	A total of 6 multi-functional expandable digital input terminals (SINK / SOURCE modes can be switched)	Input resistance: : 4.7 kΩ Operating current : 5mA Voltage range : 10~28VDC Max. Frequency : 1kHz
	M11		
	M12		
	M13		
	M14		
	M15		
Electric relay output	A10 · C10	2 sets of multi-functional electric relay output; A-C are always-open ports	Max. voltage : 30VDC or 250VAC Max. current : Resistive load : 5A NO With inductive load: 2A NO (cosΦ=0.4)
	A11 · C11		
Public terminal	SD	Common ground (SINK) for M10~M15 terminals	---
	PC	Common ground (SOURCE) for M10~M15 terminals	Output voltage: 24VDC±20% Max. current: 200mA (use with the control board)



EB308R
I/O expansion board

Terminal type	Terminal name	Descriptions and functions	Terminal specifications
Electric relay output	A10 · C1	8 sets of multi-functional electric relay output ; A-C are always open ports	Max. voltage: 30VDC or 250VAC Max. current: Resistive load: 5A NO With inductive load: 2A NO (cosΦ=0.4)
	A11 · C1		
	A12 · C2		
	A13 · C2		
	A14 · C3		
	A15 · C3		
	A16 · C4		
	A17 · C4		



PG301C

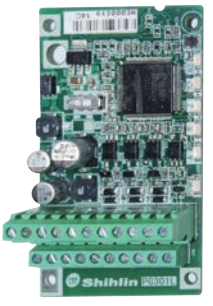
Speed feedback board (supports open collector type output)

Terminal type	Terminal name	Descriptions and functions	Terminal specifications
Input	A1、B1、Z1	Programmer signal input; supports open collector, voltage, differential type, and push-pull input modes	Max. frequency：500KP/Sec
	$\overline{A1}$、$\overline{B1}$、$\overline{Z1}$		
	A2、B2	Pulse signal input, connections to upper controllers; supports open collector, voltage, differential type, and push-pull input modes	Max. frequency：500KP/Sec
	$\overline{A2}$、$\overline{B2}$		
Output	A1O	Open collector frequency output, 1~255 frequency channels	Max. frequency：500KP/Sec Max. current: 50 mA; able to switch to different rising resistance under different voltages
	B1O		
	Z1O		
	DCM		
Power source	12V	12V power source	Voltage ±5% Current 200mA MAX
	5V	5V power source	
	DCM	Common ground for power source	

PG301L

Speed feedback board (supports differential type output)

Terminal type	Terminal name	Descriptions and functions	Terminal specifications
Input	A1、B1、Z1	Programmer signal input, support open collector, voltage, differential type, and push-pull input modes	Max. frequency：500KP/Sec
	$\overline{A1}$、$\overline{B1}$、$\overline{Z1}$		
	A2、B2	Pulse signal input, connections to upper controllers; supports open collector, voltage, differential type, and push-pull input modes	Max. frequency: 500 KP/sec
	$\overline{A2}$、$\overline{B2}$		
Output	AO、BO、ZO	Differential type frequency output, 1~255 frequency channels	Max. output voltage: 5V Max. current: 50 mA Max. frequency: 500 KP/sec
	$\overline{AO}$、$\overline{BO}$、$\overline{ZO}$		
Power source	12V	12V power source	Voltage ±5% Current 200mA MAX
	5V	5V power source	
	DCM	Common ground for power source	



PG302L

Speed feedback board (supports resolver signal)

Terminal type	Terminal name	Descriptions and functions	Terminal specifications
Input	S1、S2	Resolver signal input	3.5±0.175Vrms、10kHz
	$\overline{S3}$、$\overline{S4}$		
	A2、B2	Pulse signal input, connections to upper controllers; supports open collector, voltage, differential type, and push-pull input modes to a maximum of 500K	Max. frequency：500KP/Sec
	$\overline{A2}$、$\overline{B2}$		
Output	AO、BO、ZO	Differential type frequency output, 1~255 frequency channels	Max. output voltage: 5V Max. current: 50 mA Max. frequency: 500 KP/sec
	$\overline{AO}$、$\overline{BO}$、$\overline{ZO}$		
Power source	R1-R2	Resolver power source output	7Vrms, 10KHz

Common Accessories

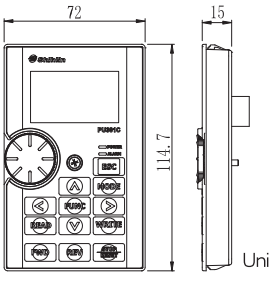
Data transmission cable SS-CBL01/03/05T

AC/DC reactor

RS485 to USB communication converter

PU301 LED Controller

PU301C LCD Controller



Unit：mm

PU301C Dimension

Shihlin

Head Office: 16F, No. 88, Sec. 6, ChungShan N. Rd., Taipei, Taiwan, 111
TEL: +886-2-2834-2662 FAX: +886-2-2836-6187

HsinFun Factory (Taiwan): No. 234, ChungLun, HsinFun, HsinChu, Taiwan, 304
TEL: +886-3-599-5111 FAX: +886-3-590-2167

Suzhou Factory (China): 88, Guangdong St., New District, Suzhou, Jiangsu, China, 215129
TEL: +86-512-6843-2662 FAX: +86-512-6843-2599

Official website **www.seec.com.tw**
Automation Division website **www.seecfa.com**
automation@seec.com.tw