SAB6000-3F-400-XX
6000W

FEATURES

- 94% High Efficiency for Both Directions
- Wide Rang input
- 6000W AC/DC Rated Power
- 6000VA DC/AC Rated Power
- Compatible With 3-Phase and Single-Phase Input
- Output Voltage and Constant Current Programmable
- Intelligent Fan Speed Control
- LED Indication of Power OK
- DC_OK Analog Indication Signal
- Remote Sense, Remote ON/OFF Control
- Auto and Manual Charge/Discharge Control
- Active Current Sharing
- CAN Bus Communication
- 12V/0.5A Standby Power
- Support Semi-Custom Design
- Variable Fan Speed Control



APPLICATION



KEY SPECIFICATION AC/DC DIRECTION SAB6000-3F-400-24/30/36/48/60/72/100

Parameter	Conditions	Min.	Typ.	Max.
AC/DC Output Voltage	SAB6000-3F-400-24		24V	
	SAB6000-3F-400-30		30V	
	SAB6000-3F-400-36		36V	
	SAB6000-3F-400-48		48V	
	SAB6000-3F-400-60		60V	
	SAB6000-3F-400-72		72V	
	SAB6000-3F-400-100		100V	
AC/DC Output Current	SAB6000-3F-400-24		250A	
	SAB6000-3F-400-30		200A	
	SAB6000-3F-400-36		167A	
	SAB6000-3F-400-48		125A	
	SAB6000-3F-400-60		100A	
	SAB6000-3F-400-72		83A	
	SAB6000-3F-400-100		60A	
AC/DC Rated Power	Derating to 3000W When Single Phase 200Vac		6000W	
DC/AC Rated Power	Derating to 3000VA When Single Phase 200VAC		6000VA	
EMC	Class A Emission			

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BASIC CHARACTERISTICS AC/DC DIRECTION SAB6000-3F-400-24/30/36/48/60/72/100

Parameter	Conditions	Min.	Typ.	Max.
Rated Input Voltage		200VAC		480VAC
Input Voltage Range		180VAC		528VAC
Rated Input Frequency			50/60Hz	
Input Frequency Range		47Hz		63Hz
Input Current	Max per Phase			20A
Power Factor	@Rated Power		>0.98	
THD	@Rated Load, 200VAC Input		<5%	
Inrush Current			<32A	
Efficiency Rated Input and Load	SAB6000-3F-400-24		>91%	
	SAB6000-3F-400-30		>92%	
	SAB6000-3F-400-36		>93%	
	SAB6000-3F-400-48		>94%	
	SAB6000-3F-400-60		>94%	
	SAB6000-3F-400-72		>94%	
	SAB6000-3F-400-100		>94%	
Output Voltage Range	SAB6000-3F-400-24	22V		26V
	SAB6000-3F-400-30	28V		32V
	SAB6000-3F-400-36	33V		39V
	SAB6000-3F-400-48	44V		52V
	SAB6000-3F-400-60	55V		65V
	SAB6000-3F-400-72	67V		77V
	SAB6000-3F-400-100	94V		106V
Rated Output Current	SAB6000-3F-400-24		250A	
	SAB6000-3F-400-30		200A	
	SAB6000-3F-400-36		167A	
	SAB6000-3F-400-48		125A	
	SAB6000-3F-400-60		100A	
	SAB6000-3F-400-72		83A	
	SAB6000-3F-400-100		60A	
Rated Output Power	Derating to 3000W When Single Phase Input 200VAC		6000W	
CV Mode Voltage Tolerance			<±0.5%	
Total Regulation	Including Line Regulation and Load Regulation, Measured at Output Terminal		<1%	
Output Ripple and Noise			<1% pk-pk	
Dynamic Response			<5%	
Power Up Time			<3s	
Rise Time			<50ms	
Holdup Time		>8ms		

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BASIC CHARACTERISTICS DC/AC DIRECTION SAB6000-3F-400-24/30/36/48/60/72/100

Parameter	Conditions	Min.	Typ.	Max.
Rated Input Voltage	SAB6000-3F-400-24	22V		26V
	SAB6000-3F-400-30	27V		33V
	SAB6000-3F-400-36	33V		39V
	SAB6000-3F-400-48	43V		53V
	SAB6000-3F-400-60	54V		66V
	SAB6000-3F-400-72	65V		80V
	SAB6000-3F-400-100	90V		110V
Rated Input Current	SAB6000-3F-400-24		250A	
	SAB6000-3F-400-30		200A	
	SAB6000-3F-400-36		167A	
	SAB6000-3F-400-48		125A	
	SAB6000-3F-400-60		100A	
	SAB6000-3F-400-72		83A	
	SAB6000-3F-400-100		60A	
Rated Input Power	Derating to 3000W When Single Phase Input 200VAC		6000W	
Output Voltage Range	Determined by AC Mains	180VAC		528VAC
Output Frequency	Determined by AC Mains	47Hz		63Hz
Output Current	Max per Phase		20A	
Power Factor	@Rated Power		>0.98	
Efficiency -Rated Input and Load	SAB6000-3F-400-24		>91%	
	SAB6000-3F-400-30		>92%	
	SAB6000-3F-400-36		>93%	
	SAB6000-3F-400-48		>94%	
	SAB6000-3F-400-60		>94%	
	SAB6000-3F-400-72		>94%	
	SAB6000-3F-400-100		>94%	

PROTECTIONS

Parameter	Type	Value
Over Current Protection	SAB6000-3F-400-24	<270A
	SAB6000-3F-400-30	<220A
	SAB6000-3F-400-36	<190A
	SAB6000-3F-400-48	<150A
	SAB6000-3F-400-60	<120A
	SAB6000-3F-400-72	<100A
	SAB6000-3F-400-100	<80A
Over Current Protection – Both Direction		AUTORESTART
Short-Circuit Protection AC/DC Direction		AUTORESTART
Over Voltage Protection AC/DC Direction		Latch Off. Recycle AC to Reset or by Communication Interface

STANDBY OUTPUT SPECIFICATION

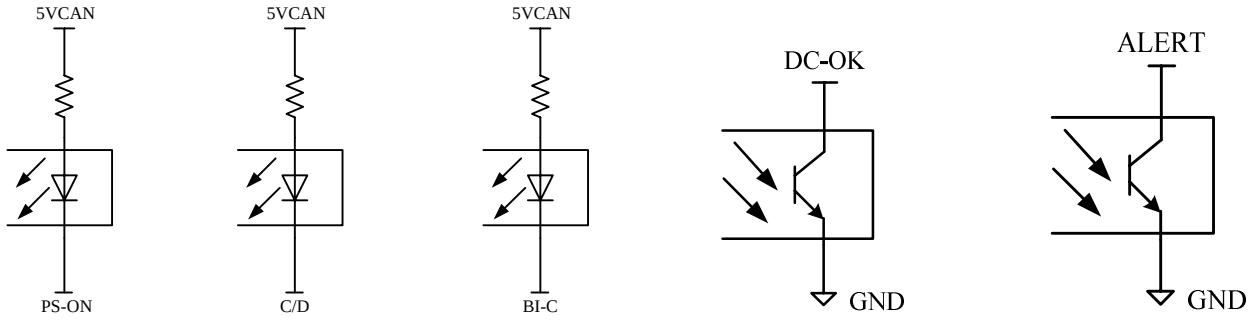
Parameter	Conditions	Min.	Typ.	Max.
Output Voltage		11.4V	12V	12.6V
Output Current		0V		0.5A
Over Current Protection (OCP)	Auto-Restart After Fault is Removed		2.5A	
Short Circuit Protection (SCP)	Auto-Restart After Fault is Removed			

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CONTROL & SIGNALS

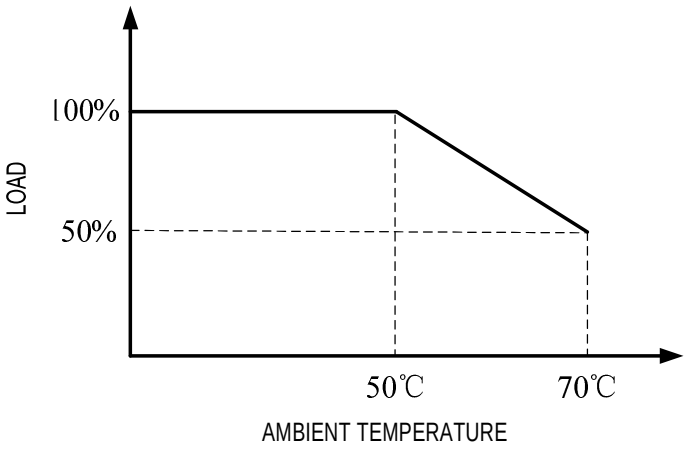
Pin	Assignment	Function	Description
CN951-1	CNAH	CAN-Bus High Communication Pin	
CN951-2	C/D	Conversion Direction Manually Control Signal	This pin is enabled when the Bi-c signal is low. When this pin signal is high the power supply operates in battery charge mode. When this pin's signal is low the power supply operates in Battery Discharge mode, when it's high or open the power supply operates in Charge Mode. This pin can be directly connected to common or controlled by a transistor connected to common on the system backplane. The function can be initialized as enable or disable by Bi-C signal or Can Bus.
CN951-3	ALERT	Fault/Warning	It's an indicator of internal protection. An open collector signal is provided to indicate any fault or warning such as over temperature, overvoltage, overcurrent, undervoltage, and fan fault
CN951-4	PS_ON	Power Supply On	This Pin can be used to remotely turn on/off Power Supply. This can be directly connected to common or controlled by a transistor connected to common on the system backplane. Low to shut down the power supply. Open or high to turn on the power supply. This pin also can be used to clear any latched fault condition.
CN951-5	5VCAN		This is the CAN-Bus 5V voltage supply pin
CN951-6	Bi-C	Bi-Directional Control Signal	When this pin is high the conversion direction is automatically detected and controlled. When this pin is low the conversion direction is manually switched by C/D signal. This pin can be directly connected to common or controlled by a transistor connected direction is automatically detected and controlled by internal firmware.
CN951-7	CANL	CAN-Bus low Communication Pin	
CN951-8	DC_OK	DC Okay	This pin is used to monitor the output voltage and input VAC on the way down. It is an indicator of output voltage with regulation range. It is an open collector output. Low for output not in regulation and open for DC Voltage is OK.
CN951-9	COM	Common	This is the common return pin for the CN2 signal Pin1 to Pin10
CN951-10	12VSB		This is the 12V standby output voltage pin
CN951-13	Remote Sense+		Remote Sense Positive
CN951-14	Remote Sense-		Remote Sense Return
CN951-15,16	Current Share		This pin must be connected to the power supplies when DC Output parallel connected

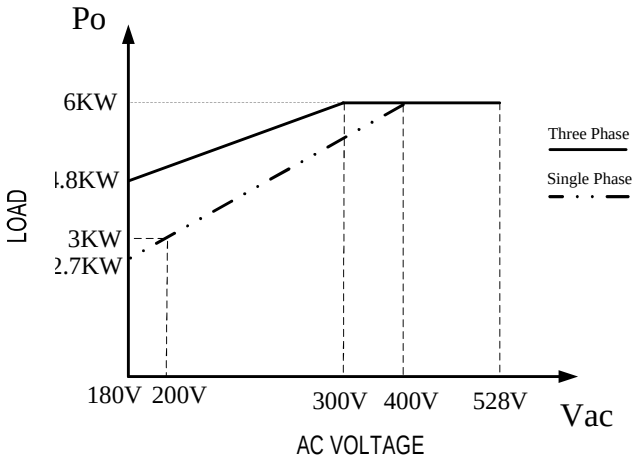
IMAGINES OF THE CONTROL & SIGNAL



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POWER DE-RATING CURVE





LED & SIGNALS INDICATOR

Power Supply Condition	Alert	Front		Back		DC_OK
		Green LED	Yellow LED	Green LED	Yellow LED	
Battery Charge Operation	Low	On	Off	On	Off	High
Battery Discharge Operation	Low	Blink	Off	On	Off	High
Standby Mode	Low	Off	Blink	On	On	Low
Fault Condition						
DC Undervoltage	High	Off	On	On	Off	Low
DC Overvoltage	High	Off	On	On	Off	Low
Fan Fault	High	Off	On	On	Off	Low
Over Temperature	High	Off	On	On	Off	Low
AC Undervoltage	High	Off	On	Off	On	Low
DC Overcurrent	High	Off	On	On	Off	Low
AC Overcurrent	High	Off	On	On	On	Low
Islanding	High	Off	On	On	On	Low

ENVIRONMENTAL

Parameter	Conditions	Value
Operating Ambient Temperature Range	Derating from 100% Load at 50°C to 50% Load at 70°C	-30°C to 70°C
Storage temperature range		-40°C to +85°C
Operating Altitude		0m-5000m
Operating Humidity	Non-Condensing	5%-95%
Fan		Variable Speed Control
MTBF	According to Telcordia SR-332. 480VAC 25°C ambient with rated load	500Khrs

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SAFETY & CERTIFICATIONS (PENDING)

Certificate Type (Safety)		Standard
ITE Safety		UL 62368-1+CAN/CSA 62368-1 IEC/EN 62368-1
Dielectric Voltage	Input to/Output	3000VAC
	Input to/Ground	2000VAC
	Output to/Ground	500VAC
Leakage Current (230VAC, 50Hz)		1mA

EMC Compliance	Conditions	Standard / Criterion
Conducted Emission		EN 55032, Class A
Radiated Emission		EN 55032, Class A
Harmonic Current Emission		IEC 61000-3-2 Meet Class A Limit
Voltage Flicker		IEC 61000-3-3
Electrostatic Discharge		IEC 61000-4-2 Level 4 (Air Discharge: 15kV, Differential Mode 1kV), Criteria A
Radiated Field		IEC 61000-4-3 Criteria A
Electrical Fast Transient/Burst		IEC 61000-4-4 Level 2 (1kV), Criteria A
Surge		IEC 61000-4-5 Level 3 (Common Mode 2kV, Differential Mode 1kV), Criteria A
Power Frequency Magnetic Fields		IEC 61000-4-8 Criteria A, Magnetic Field Strength 3A/m
Voltage Dips		IEC 61000-4-11 Criteria A: 1%UT, 0.5Cycle, 4.7%UT, 0.5Cycle Criteria B: 2%UT, 1Cycle, 3.4%UT, 5Cycle, 5.7%UT, 25Cycle, 6%UT, 250Cycle

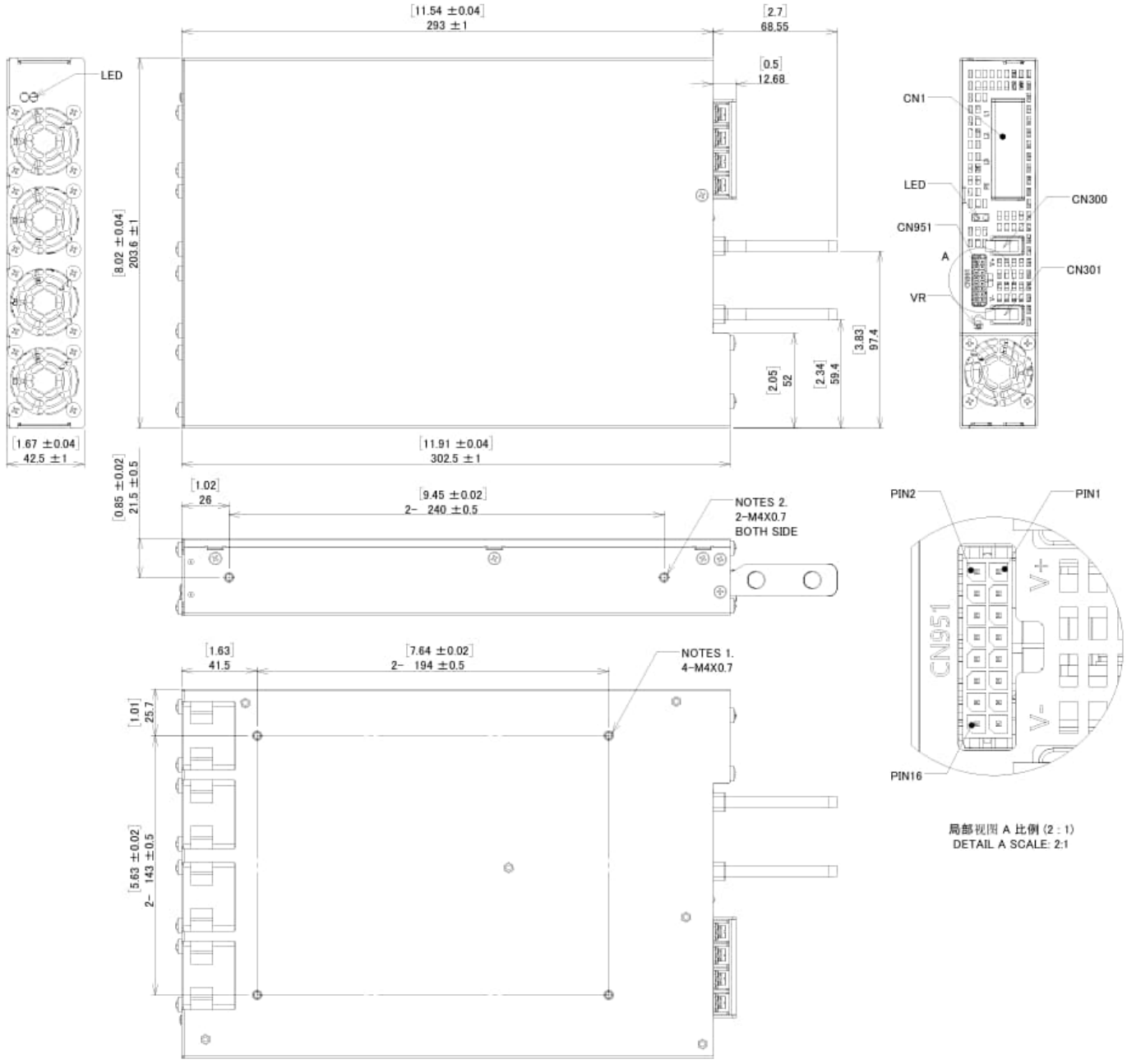
CRITERIA A: Normal operation within spec limit
CRITERIA B: out of regulation or restart to normal operation after test

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DIMENSION

Parameter	Type	Value
Dimension		203mmx293mmx42mm 8"x11.5"x1.65"

Mechanical Drawing (mm)



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Fig 1 底部安装示意图
Base plate mounting

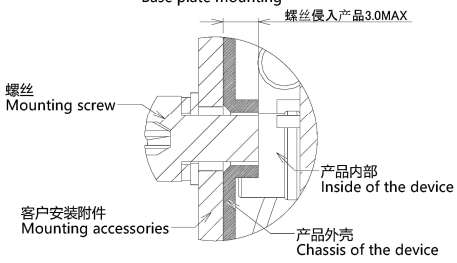
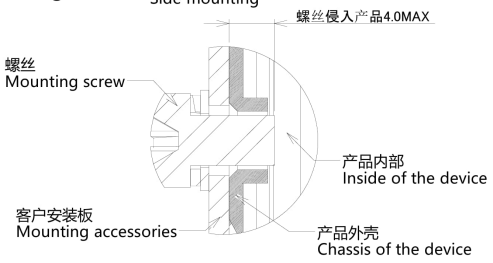


Fig 2 侧边安装示意图
Side mounting



Notes:

1. Base plate mounting, M4 thread holes, maximum penetration 3.0mm (0.12inch) from outside face of chassis
2. Side mounting, M4 thread holes, maximum penetration 4.0mm (0.16inch) from outside face of chassis
3. CN1 is AC input/output terminal block and with M4 screw in four positions, wire gauge is 10~18WG
4. CN300/CN301 is DC output/input terminal block and suggest to use M8 screw to fix wire
5. CN951 is a signal and control connector, type is MOLEX 430451600, mate with 430251600 or equivalent
6. VR: clockwise is to increase the output voltage, anti-clockwise is to reduce the output voltage

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