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REMOVAL / INSTALLATION

MANUAL

MODEL
SPC-6-1000-3PH

115 VAC, 50/60 HZ TO 115 VL-N, 400 HZ, 3∅

Dwg. No. 88006 Rev. C

Prepared By: ***XUAN LY*** Date: ***09/10/2004***

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1. INTRODUCTION

A. Purpose of Manual

The purpose of this manual is to provide removal/installation instructions for the Model SPC-6-1000-3PH (115 VAC, 50 or 60 HZ to 115/200 VAC, 400 Hz, 3 phase, 1000 VA frequency changer). For bench test or ground application.

B. Purpose of Equipment

The Model SPC-6-1000-3PH converts 115 VAC, 50 or 60 HZ to 115/200 VAC, 400 HZ, 3∅, 4 wire Wye, 1000 VA and 26/45 VAC, 400 HZ, 3∅, 225 VA (1000 VA total some of two output).

C. Description

The Model SPC-6-1000-3PH is a solid-state, off line rectified single phase to 115/200 VAC, 400 HZ, 3 phase switch-mode converter. Input voltage can be 115 VAC. 3 phase output voltage is adjustable 105 to 125 VAC with the voltage adjust pot on the front panel. 400 HZ output frequency is also adjustable 380 to 420 HZ.

The SPC-6-1000-3PH incorporates overload and short circuit protection and provides up to 150% of rated output power without degradation of the AC output.

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D. Technical Characteristics

Input Voltage:	115 Vac ± 10 Vac, 50 to 60 Hz.
Input Current:	14 Aac typical at 100 % load and 115 Vac.
Output Voltages:	115 Vac L-N, 200Vac L-L (105/182 to 125/216 Vac Adjustable), 26 Vac L-N, 45 Vac L-L (24/41 to 28/48 Vac Adjustable), 400 Hz (380 to 420 Hz Adjustable) and 3 Phase.
Output Current:	3 Aac per phase. Both outputs
Output Power:	1000 VA (333 VA/∅) for 115 Vac: 225 VA (75 VA/∅) for 26 Vac. 1000 VA total (some of two outputs)
Efficiency:	75% (nominal)
Regulation:	Line: 3% typical (105 VAC to 125 VAC) Load: 3% typical (NL to 100% load)
Overload Capacity:	110% of the rated output current overload at least 1 hour. 150% of the rated output current overload at least 5 minutes.
Protection Circuits:	The unit withstands without damage loads exceeding 150% of full load to an output short circuit. The unit will deliver rated output on removal of the above overload condition.
Cooling:	Thermostatically controlled, brushless fan (Fan comes on when the internal temperature exceed pre-set temperature).
Operating Temperature:	-13°F to +122°F (-25°C to +50°C)
Dimensions:	17.0"(431.8mm) W X 12.5"(317.5mm) D X 7.0"(177.8mm) H
Weight:	37.0 ± 1 Lbs (16.8 ± 0.45 kgs).

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2. INSTALLATION

A. General Information

The Model SPC-6-1000-3PH is ready to be installed when delivered from the factory. If required, the unit can be tested using a bench test setup as shown in Figure 2 prior to the final installation.

B. Selection of Mounting Area

The Model SPC-6-1000-3PH is to be placed on a solid stable flat bench top or 19" relay rack. The location of the unit should be in a well-ventilated area such that the ambient temperature will not exceed 122°F (50°C). Exposure to excessive moisture and excessive mechanical vibration should be avoided. **Do not** block or restrict airflow near the ventilation holes of the unit. If an external fan is located near the unit, the direction of airflow must not conflict with the internal airflow of the unit.

C. Installation Procedures

Figure 1 illustrates the mounting dimensions of the Model SPC-6-1000-3PH in a 19-inch relay rack or place it on a stable flat surface bench. Do not block air vents of both sides of Model SPC-6-1000-3PH.

Figures 2 illustrates a suggested hook-up for the unit. The mating plug used with the unit is JK30004 (MS3106*24-11S) and the recommended wire sizes are as follows: (* = A, B, E, R or eq.) Output connections can be made to terminal block on the rear panel or circular connector on the front panel they are parallel connected.

Pin A - #16 AWG	Output Phase A 115/200 Vac, 400 Hz.
Pin B - #16 AWG	Output Phase B 115/200 Vac, 400 Hz
Pin C - #16 AWG	Output Phase C 115/200 Vac, 400 Hz
Pin D – N/C	
Pin E - N/C	
Pin F - #16 AWG	Ground/Neutral
Pin G - #16 AWG	Output Phase A 26/45 Vac, 400Hz.
Pin H - #16 AWG	Output Phase B 26/45 Vac, 400Hz.
Pin I - #16 AWG	Output Phase C 26/45 Vac, 400Hz.

Output connections can be made to terminal block on the rear panel or circular connector on the front panel they are parallel connected.

External input circuit breaker is not required because Power On – Off switch on the front panel is circuit breaker. If the external input circuit breaker is used, it must be THERMO type circuit breaker to over come high surge current requirement (recommended circuit breaker part number is W31-X2m1G-20 by Potter & Brumfield (20 Amp rated).

D. Operating Instruction

Prior to application of input power, check the connection of the load, input hook-up per the diagram of Fig. 2. To operate the unit, apply 115VAC, 60Hz. Input power indicator and Switch on on-off power switch on the front panel.

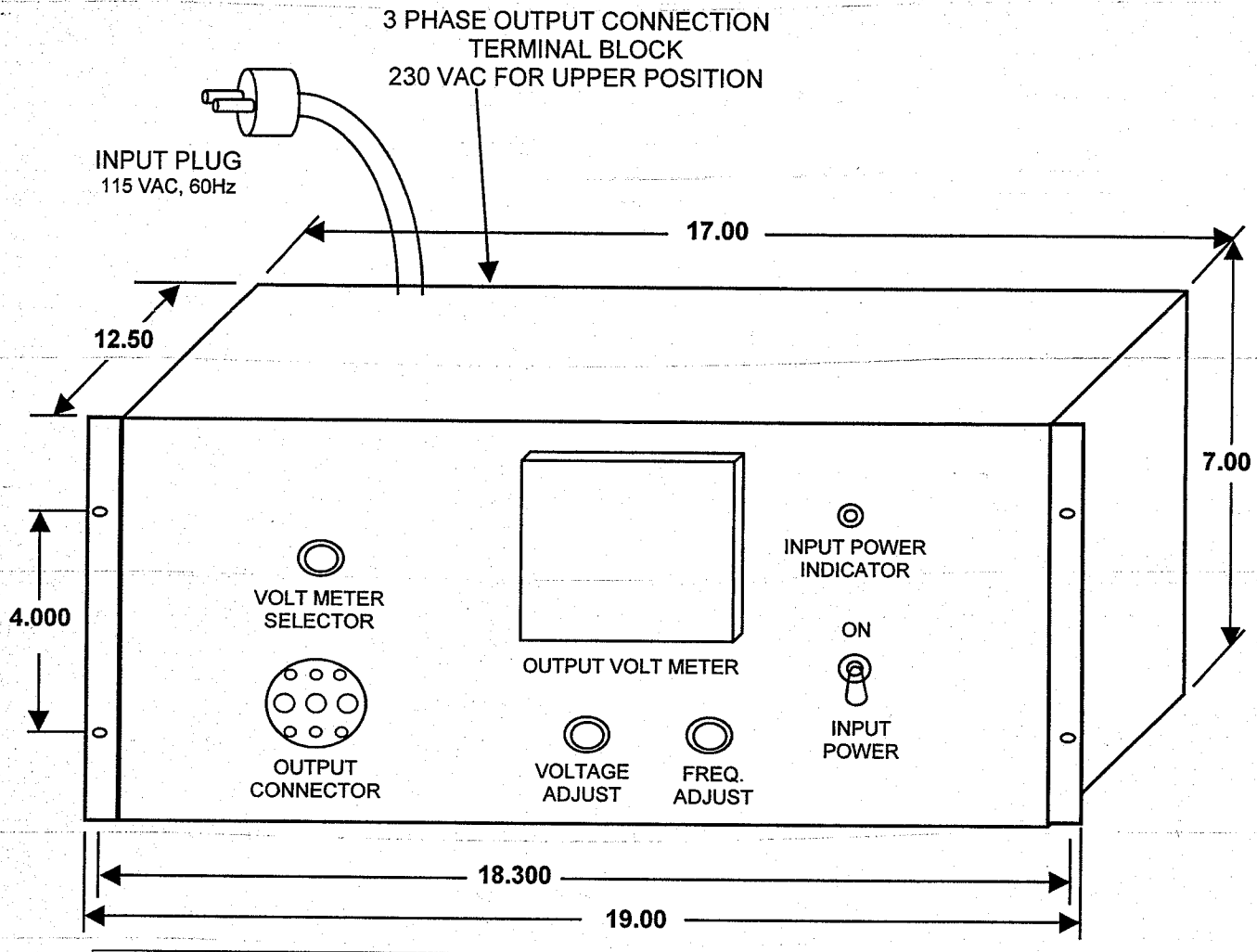
E. Operating Limitation

Unit must be installed and operated within the limiting conditions of the above installation procedure, electrical specifications and environmental categories in this manual.

F. Instruction for Continued Airworthiness

No regular periodic maintenance is required for this product. Operation is "On condition" and service is required only when a malfunction is detected.

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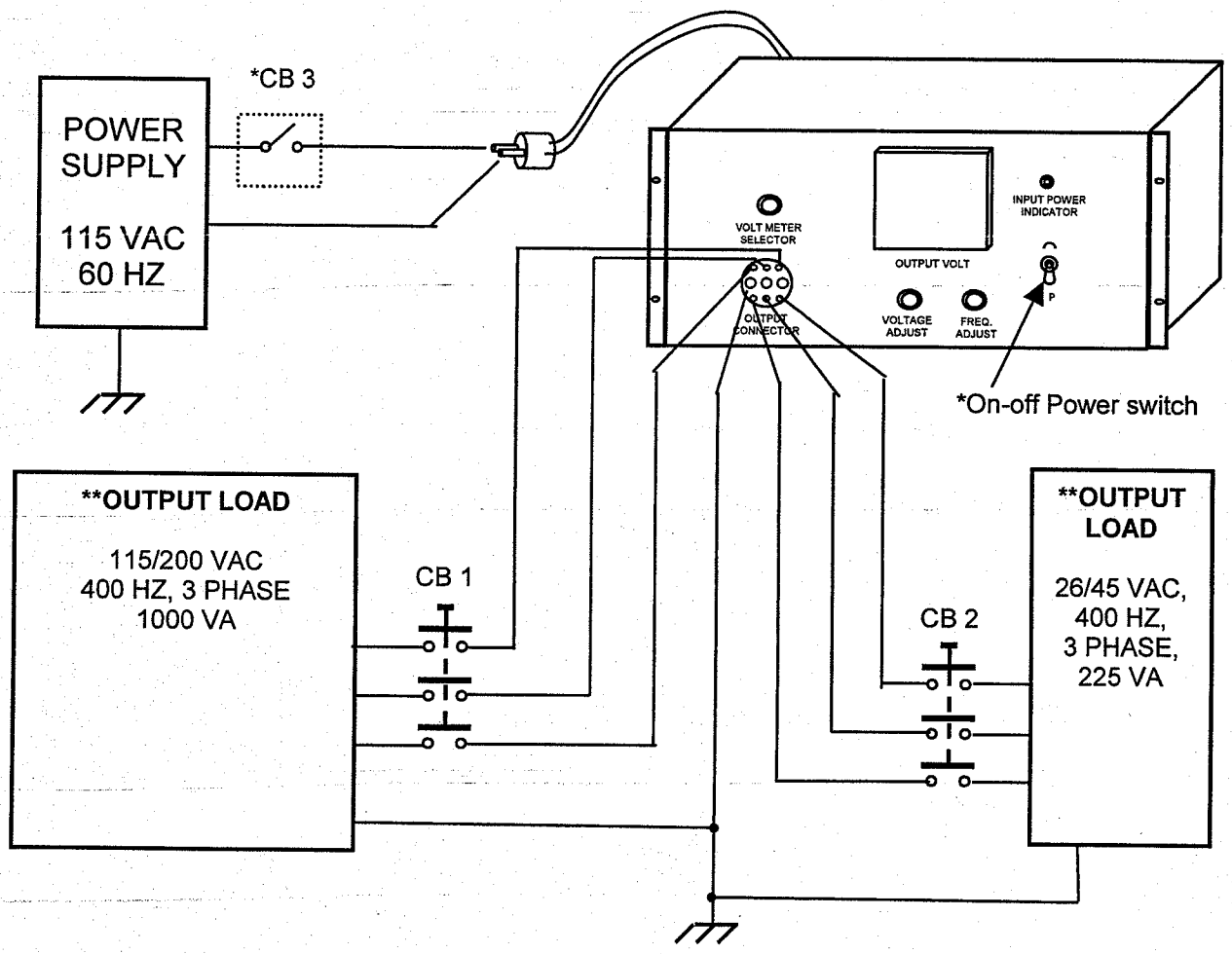
OUTPUT CONNECTION		
CIRCULAR CONNECTOR		TERMINAL BLOCK
PIN	DESCRIPTION	
A	PHASE A: 115/200 VAC	⊕
B	PHASE B: 115/200 VAC	⊕
C	PHASE C: 115/200 VAC	⊕
F	GROUND/NEUTRAL	⊕
G	PHASE A: 26/45 VAC	⊕
H	PHASE B: 26/45 VAC	⊕
I	PHASE C: 26/45 VAC	⊕
D & E	NO CONNECTION	O

NOTES:

1. Dimensions are inch. Dimensional tolerance is ± .1 in. unless specified.
2. The dimensions shown do not include the protrusion of screw heads.
3. May use CIRCULAR CONNECTOR on the front panel or TERMINAL BLOCK on the rear panel for Output connections.
4. Input power on – off switch is circuit breaker. External input circuit breaker not required.

Figure 1 Outline and Mounting Dimension

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NOTES:

(1) CB1, CB2: 4 Amp 3Φ circuit breaker P/N 583-G533-J1M1-B2S0X- 4 AMP by ETA or equivalent.

*(2) CB3: NOT REQUIRED (On-off Power switch is 20 Amp CB). If installed, use THERMO TYPE 20 amp circuit breaker part number W31-X2M1G-20 by Potter & Brumfield or equivalent (75 Apk surge current).

**(3) Total power is 1000 VA (Some of two outputs)

Figure 2 Suggested Hook - Up

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4. HOW TO RETURN MATERIAL OR EQUIPMENT

If any material or equipment is to be returned to the factory, under warranty or otherwise, KGS ELECTRONICS must be notified prior to shipment with the following information:

(A) Model and serial number of equipment being returned.

(B) Date purchased.

(C) Date placed in service.

(D) Number of hours in service.

(E) Nature and cause of failure.

(F) Remarks, if any.

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Arcadia, CA 91006-5619
(U.S.A.)

Telephone No.: (626) 574-1175
Facsimile No.: (626) 574-0553

Failure to obtain a RMA number and provide the details listed above may cause unnecessary delay and/or rejection of the returned material or equipment.

All material or equipment returned to the factory must be **freight prepaid.** Acceptable methods of shipment for international return are *Airborne, Burlington Air, DHL, Emery, Federal Express, UPS International,* and *World Wide* only. **Do not use "International Commercial Airline"** as such carriers may cause a **loss of returned material or equipment.**

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5. CALIBRATION

A. Output voltage meter check or calibration.

1. Plug input power cord of the SPC-6-1000-3PH into a 115VAC, 60Hz wall outlet.
2. Switch on the power ON-OFF switch of the SPC-6-1000-3PH.
3. Turn voltmeter selector switch to the V_{AN} (phase A line to neutral) position.
4. Set V_{AN} on the voltage meter to 115VAC by adjusting the output voltage adjusts pot located directly under the voltmeter.
5. Switch the voltmeter selector switch to V_{AB} (phase A to phase B line to line voltage), V_{BC} (phase B to phase C line to line voltage), or V_{CA} (phase C to phase A line to line voltage).
   The voltmeter should be indicating 100VAC ± 5%
   (Actual voltage is 100 x 2 = 200VAC ± 5%).

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