

DC Converters & Power Supplies

	Description
P/N BC14 BC28	DC to DC battery charger
P/N PFA1	400 Hz AC to fixed 7.5VDC 10 watt DC power supply
P/N EAL-2808	DC emergency lighting and battery charger
P/N KTA-60	DC to AC power converter
P/N LT-23	AC to regulated and controllable DC power supply
P/N LT-258	AC to regulated and controllable dual DC power supply
P/N LT-4X Series	TSO'D DC to regulated and controllable DC power supply
P/N LT-248	DC to regulated and controllable dual DC power supply
P/N BP-31	Base plate for LT-series and RB-125
P/N LT-50	DC to regulated and controllable DC power supply
P/N LT-52(A), LT-70, LT-100	DC to regulated and controllable DC power supply
P/N LT-53(A), LT-73, LT-103	DC to regulated and voltage controllable DC power supply
P/N LT-55, LT-57 Series	DC to regulated and controllable DC power supply
P/N LT-71, LT-101	DC to regulated DC power supply

400 Hz Sine Wave

	Description
P/N SC3	TSO'd 30 VA static inverter
P/N SPC-5() Series	TSO'd 50 VA static inverters
P/N SPC-10() Series	TSO'd 100 VA static inverters
P/N C-10(J) Series	TSO'd 250 VA static inverters
P/N SPC-30() Series	TSO'd 300 VA static inverters
P/N SPC-38() Series	TSO'd 375 VA static inverters
P/N SC50	TSO'd 500 VA static inverter
P/N SPC-60() Series	TSO'd 600 VA static inverters
P/N SPC-75()	TSO'd 750 VA static inverters
P/N SPC-75(B)	TSO'd 750 VA static inverters
P/N SC100	TSO'd 1000 VA static inverter
P/N SCA150	TSO'd 1500 VA three-phase static inverter
P/N SE25	TSO'd 250 VA three-phase static inverter
P/N SPC-6-750A	750 VA frequency changer
P/N SPC6-1500	1500 VA frequency changer
P/N SPC6-1000-3PH	1000 VA, three-phase frequency changer

Square Wave Inverters

P/N SPS-1308-3	1000 VA static frequency changer
P/N SPH-1606B-3	1800 VA static frequency changer
P/N PC19-93, PC19	1000 VA static inverter

	Description
P/N LT-2XX-400	400 Hz AC to regulated and controllable DC supply
P/N LF10	DC to regulated 5VDC high power converter
P/N LH14	DC to regulated 5VDC high power converter
P/N LT-35X Series	DC to multiple regulated and controllable DC supply
P/N DT30	Multi-channel DC to DC/AC power converter
P/N LT-37X Series	DC to multiple regulated and controllable DC supply
P/N LT-310X Series	DC to multiple regulated and controllable DC supply
P/N RB-125, RB-126	DC to regulated DC power booster
P/N SRP500-14	AC to regulated DC power supply
P/N WH120	AC to regulated DC converter
P/N RG40	TSO'D regulated DC to DC converter
P/N RH28	TSO'D regulated 14 to 28VDC high power DC converter
P/N RG28	TSO'D regulated 28 to 14VDC high power DC converter
P/N RHB40	Regulated boost converter

60 Hz Sine Wave

	Description
P/N SPS-205, P/N SPS-305 Series	TSO'd 50 Hz static inverters
P/N SPS-206, P/N SPS-306 Series	TSO'd 50 Hz static inverters
P/N SPS-316-3	TSO'd 300 VA static inverters
P/N SPS-750	TSO'd 750 VA static inverters
P/N SPS-1307, SPS-1607	TSO'd 1000 and 1200 VA static inverters
P/N SS & SB Models	TSO'd lightweight 50 Hz/60 Hz static inverter
P/N HS & HB Models	TSO'd lightweight 50 Hz/60 Hz frequency changer
P/N HS200 & HB200	TSO'd lightweight 2K VA 50 Hz/60Hz frequency converter
P/N HS351	TSO'd lightweight 3.5K VA 60Hz frequency converter

Other Products

P/N CL-33	32 output current limiter
P/N 3PH-B400	three-phase WYE/DELTA sync box
P/N EL1	three-phase WYE/DELTA sync box
P/N BTI Series	Battery temperature indicator
P/N CC Series	Dual secondary 400 Hz transformer
P/N CS Series	Single secondary 400 Hz transformer

LT-52, LT-70 & LT-100 Regulated DC to DC Power Converter (Light Dimmer)

- LT-series is a pulse width-modulated DC to DC converter that provides regulated power
- Converter transforms an unregulated 28VDC to a regulated and adjustable DC output via a remote control potentiometer
- LT-series is primarily designed to control the light intensity of incandescent bulbs in aircraft lighting
- LT-52A and LT-100 converters are FAA PMA recognized

P/N LT-52A

P/N LT-70

P/N LT-100

Features

- State of the art design for regulation and positive logic for output over voltage protection
- Other LT-series available in various output voltages and power ratings in the same package size
- LT-series is serviceable, small and lightweight
- Maximum output voltage is adjustable with an internal trim pot
- Designed to meet various applicable portions MIL-STD 704 notice 3, MIL-STD-202C and MIL-T-5422F class 1A



Characteristics	LT-52A	LT-70	LT-100
Max VA Rating	50	70	100
Input Voltage (VDC)	20 to 40	20 to 40	20 to 40
Input Current (ADC)			
@ 20VDC Input	3.7	4.0	5.8
@ 28VDC Input	2.5	3.2	4.2
Output Voltage (VDC)	0 to 5	0 to 12	0 to 28
Output Current (A DC)	10	5.8	3.6
Efficiency	73	78	84

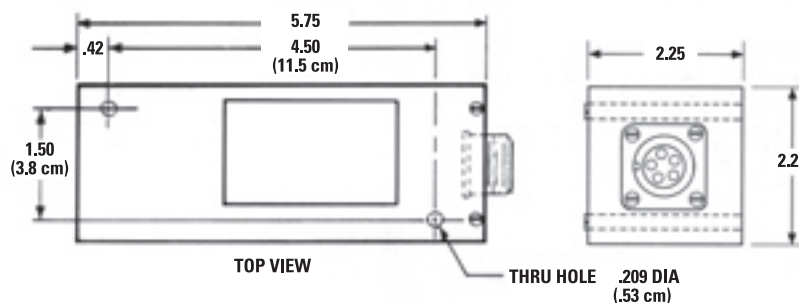
PIN Number	Description	Remarks
A	+28VDC input	20 to 40VDC
B	Common ground	Input/output return
C	+VDC output	Adjustable DC output
D	Remote control	5K OHMS rheostat to ground
E	Spare	NC

Model	Mating Plug	Receptacle
LT-52A	KPT06B145S	PT02E145P
LT-70	MS3106A14S5SX	MS3102A14S5PX
LT-100	MS3106A14S5S	MS3102A14S5PX

Specifications

Input Voltage	28VDC (nominal), 20 to 40VDC
Protection (Over Voltage)	Output voltage is limited to approximately 125% of rating even though remote control rheostat opens or shorts, or internal failure occurs
Output Voltage	Adjustable with external 5K OHMS, 1/2 W rheostat
Regulation	2% for line, 2% load & 2% temperature
Temperature	-55°C to +71°C (sufficient cooling required @ +71°C ambient)
Output Ripple	25 MVP-P
Altitude	55,000'
Protection (Over Voltage)	Input & output current pulse when overload exceeds approximately 125% of rating
Size	2.3" H x 2.3" W x 5.8" L, 5.7 cm H x 5.7 cm W x 14.6 cm L
Weight	1.5 lbs. (683 g)

Outline Dimensions



LT-55 Series & LT-57 Series Regulated DC to DC Power Converter (High Power Light Dimmer)

- LT-55 () and LT-57 () series are pulse width-modulated DC to DC converters that provide regulated high power DC
- Converter transforms an unregulated 28VDC to a regulated fixed or adjustable DC output via a remote control potentiometer
- LT-55 () series is primarily designed to control the light intensity of incandescent bulbs in aircraft instrument lighting when requiring 0-15 AMPS at 5VDC output
- Model LT-57 () series is designed for 0-10 AMPS up to 13.75VDC output

P/N LT-55

P/N LT-57

P/N LT-55(A)

P/N LT-57(A)

P/N LT-55(B)

P/N LT-57(B)

P/N LT-55(D)

P/N LT-57(F)

P/N LT-55(F)

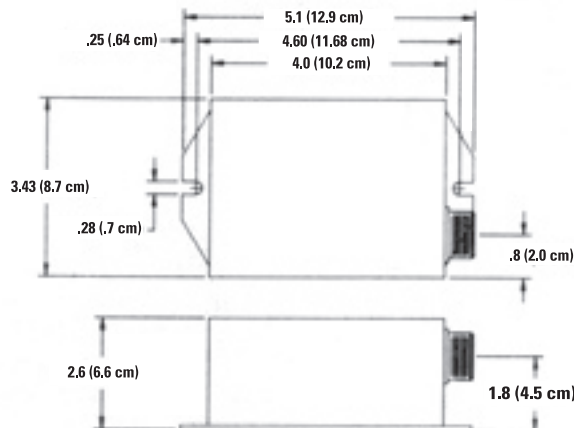
Features

- State of the art design for regulation and positive logic for output over voltage protection
- Maximum output voltage is adjustable with an internal trim pot
- Maximum current limit is adjustable with an internal trim pot
- Designed to meet various applicable portions MIL-STD 704 notice three, MIL-STD-202 and MIL-T-5422F class 1A



Specifications	Model LT-55 () Series	Model LT-57 () Series
Input Voltage	28VDC (nominal), 20 to 36VDC	28VDC (nominal), 22.5 to 36VDC
Output Voltage	0 to 5VDC adjustable: LT-55() to 10K 1/2W rheostat LT-55(A) to 300 OHMS to 10K 1/2W potentiometer LT-55(B) to 0-5VAC or 0-5VDC voltage control LT-55(F) to fixed @ 5VDC	0 to 13.75VDC adjustable: LT-57() to 10K 1/2W rheostat LT-57(A) to 300 OHMS to 10 K 1/2W potentiometer LT-57(B) to 0-5VAC or 0-5VDC voltage control LT-57(F) to fixed @ 13.75VDC
Output Current	0 to 15A DC continuous	0 to 10A DC continuous
Regulation	2% for line, 2% load & 2% temperature	2% for line, 2% load & 2% temperature
Weight	1.2 lbs. (545 g)	1.2 lbs. (545 g)

Outline and Mounting Directions



RB-125 & RB-126 Regulated DC to DC Power Booster

- RB series is a pulse width-modulated DC to DC converter that provides regulated +28VDC up to 5.0 AMPS
- Converter transforms an unregulated input from a 12V battery to a regulated +28VDC output in a bootstrap mode
- RB series is primarily intended for use in an aircraft with 12VDC battery system to operate 28VDC equipment (especially during periods when the battery is not charged)

P/N RB-125
P/N RB-126

Features

- State of the art design for regulation and positive logic for output over voltage protection
- Output is adjustable to 28 ±2VDC via an internal trim pot
- Designed to meet various applicable portions MIL-STD 704 notice three, MIL-STD-202 and MIL-T-5422F class 1A
- The Model RB series is serviceable, small and lightweight (110 watts per pound and 5.8 watts per cubic inch for the RB-126)



RB-125



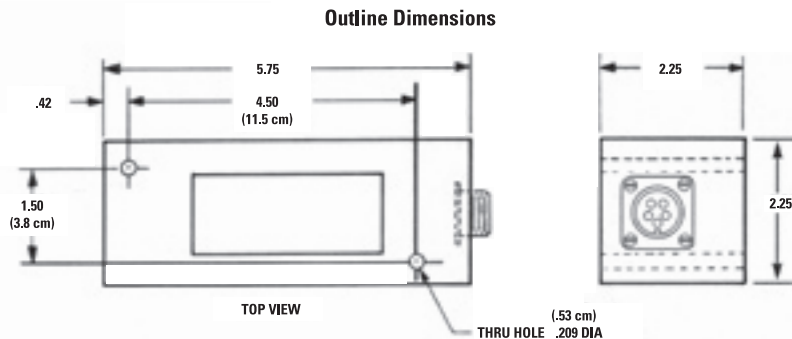
RB-126

Specifications	RB-125	RB-126
Input Voltage	11 to 16VDC	13.5 to 16VDC
Input Current	14 to 11A DC	12 to 11ADC
Output Voltage	28VDC	28VDC
Output Current	5.0 AMPS	6.0 AMPS
Efficiency @ Full Load	87%	90%
Output Ripple	50 mV p-p plus input ripple	
Regulation	2% for line, 2% load & 2% temperature Refer to graph of input vs. output voltage	
Load Transient Response	2V maximum overshoot for 40 mSec From FL to NL 4V maximum undershoot for 10 mSec from NL to FL	
Protection (OVERLOAD)	Output voltage collapses to input DC voltage when load exceeds approximately 6.5 to 7.5 AMP	
Protection	Over voltage circuit limits output to approximately 33VDC	
Temperature	-55°C to +71°C (sufficient cooling required @ +71°C ambient); 25 SCFM of air or base plate temperature held @ 71°C	
Altitude	55,000'	
Size	2.3" H x 2.3" W x 5.8" L, 5.7 cm H x 5.7 cm W x 14.6 cm L	
Weight	1.5 lbs. (683 g)	

External Connection, Mounting Detail & Performance Curve

PIN Number	Description	Remarks
A	+13.75VDC input	Up to 16VDC (see specs)
B	Common ground	Input/output return
C	+28VDC output	Regulated, factory set
D	NC	No connection
E	Connected to PIN A	Parallel to input line

Model	Mating Plug	Receptacle
RB-125	MS3102A14S5P	MS3106A14S5S
RB-126	MS3102A14S5P	MS3106A14S5S



SPS-206 & SPS-3062 Series TSO'D 60Hz Static Inverter

These TSO'd 60 Hz static inverters are used as a source of on-board AC power for the operation of audio and video equipment, portable computers, stereo equipment systems and telecommunication equipment in aircraft that have 28 or 14VDC electrical systems.

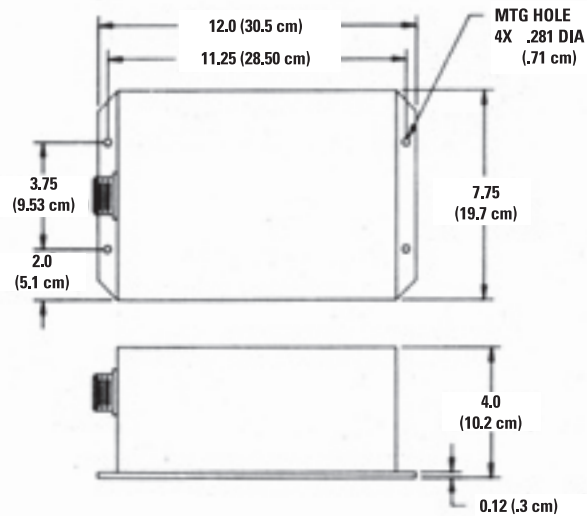
For applications requiring greater power these inverters may be paralleled for higher output capacity.

P/N SPS-206

P/N SPS-3062



Outline Dimensions



Specifications

Input Voltage	28VDC \pm 2V, withstands 88V transient for 1 mSec
Power Factor	.8 to 1.0
Amplitude Distortion	< 7%
Wave Form	Sine wave
Phase	Single
Short Circuit	Withstand for 1 min.
Temperature	-65°F to +160°F (-55°C to +71°C)
Altitude	55,000'
Qualification	FAA TSO-C73

Model	Output Voltage (+5% to 7%)	Output Power VA	Frequency Hz (\pm 1)	Input VDC Current A DC	Weight Lbs. (KG)
P/N SPS-206	115VAC	200	60	28VDC 10.5A	15.7 (7.1 Kg)
P/N SPS-306	115VAC	300	60	28VDC 15.8A	18.0 (8.1 Kg)
P/N SPS-205	115VAC	200	50	28VDC 10.5A	15.7 (7.1 Kg)
P/N SPS-2052	230VAC	200	50	28VDC 10.5A	15.7 (7.1 Kg)
P/N SPS-305	115VAC	270	50	28VDC 15.8A	18.0 (8.1 Kg)
P/N SPS-3052	230VAC	270	50	28VDC 15.8A	18.0 (8.1 Kg)
P/N SPS-306B	115VAC	375	60	28VDC 19.8A	18.0 (8.1 Kg)
P/N SPS-306B-3*	115VAC	375	60	28VDC 19.8A	18.0 (8.1 Kg)
P/N SPS-306-3*	115VAC	300	60	28VDC 15.8A	18.0 (8.1 Kg)
P/N SPS-3062	Dual 115VAC	300	60	28VDC 15.8A	18.0 (8.1 Kg)
P/N SPS-316-3*	115VAC	300	60	14VDC 31.0A	18.0 (8.1 Kg)

SPS-750, SPS-1307 & SPS-1607 TSO'D Static Inverter

The SPS-750, SPS-1307 and SPS-1607 are specifically designed to operate microwave ovens, medical equipment (EMS application), video systems and other electrical appliances which require 115VAC, 60 Hz power.

The SPS-750(B) and SPS-1670(B) are available for parallel operation where greater output is required.

The SPS-750(D), SPS-1307(D) and SPS-1607(D) are available for 230VAC, 50 Hz output.



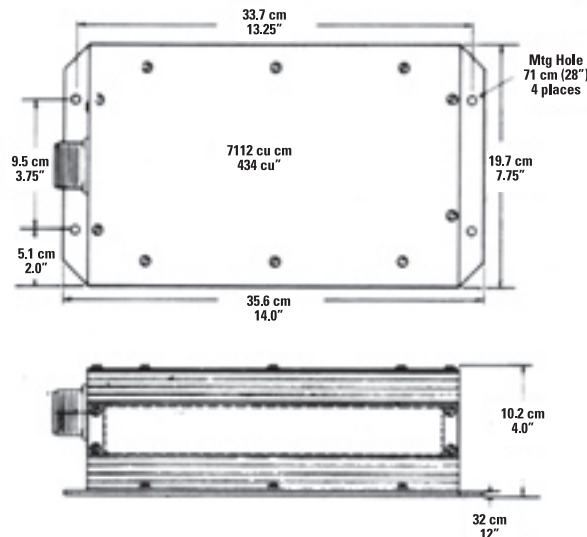
Specifications

Input Voltage	28VDC \pm 2 DC
Output Voltage	115VAC
Frequency	60 Hz \pm 1 Hz
Wave Form	Clipped sine
Phase	Single
Temperature	-65°F to + 160°F
Altitude	55,000'
Qualifications	FAA TSO-C73

Model	Input Current (Cont.)	Output Power		Efficiency	Weight	CB*	
		CONT.	INTER. DUTY				
P/N SPS-750	33ADC	750VA	1000VA	8%	80%	21.0 lbs.	50A
P/N SPS-1307, SPS1307A	42ADC	1000VA	1300VA	10%	80%	24.5 lbs	60A
P/N SPS-1607, SPS1607A	49ADC	1200VA	1600VA	15%	80%	24.5 lbs	70A

*Recommended circuit breaker rating

Outline Dimensions



SS & SB Series TSO'D 50Hz/60Hz Lightweight Static Inverters

The models SS and SB series are lightweight, static inverters. These models utilize the latest state of the art, solid state circuitry to invert a 28VDC input to either a 115VAC, 60 Hz or 230VAC, 50 Hz sine wave output.

Design features include a crystal controlled oscillator for output frequency stability and a pulse-width-modulated square to sine wave power conversion scheme for reliable and quiet operation.

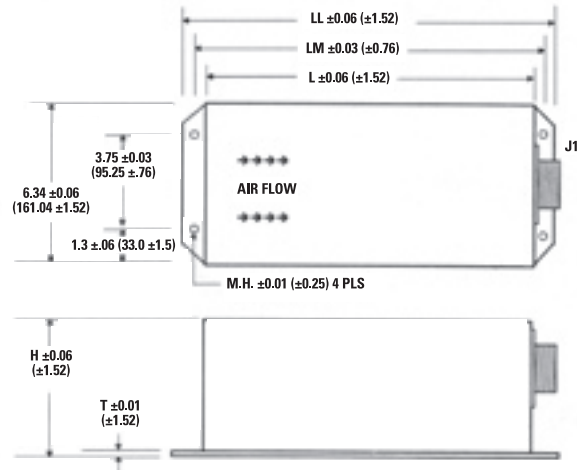
The model SS and SB series of static inverters are designed to operate television sets, video cassette recorders (VCR), stereo entertainment systems, computers, coffee makers, microwave ovens and EMS equipment.

P/N SS

P/N SB



Outline Dimensions



Specifications

Input Voltage	28VDC (nominal), 20VDC to 36.5VDC range
Output Wave Form	Sinewave/Single phase
Harmonic Distortion	0.5% (nominal)
Power Factor	+0.8 to -0.8
Efficiency	87% (nominal)
Response Time	300 uSec (no load to full load)
Regulation	1% Line, 1% load, 2.5% temperature
Overload Capacity	110% of the rated power for 2 hrs.; 150% of rated power for 5 min. (minimum)
Protection Circuits	The inverter will shutdown under the following conditions: <ul style="list-style-type: none"> • Input voltage > 37.5VDC ± 1VDC; Input voltage < 18.0VDC ± 1.5VDC • Internal, high ambient temperature; short circuit condition
Remote On-Off	Yes
Operating Temperature	-55°C to 71°C (-65°F to + 160°F)
Altitude	55,000'
Environmental Test	DO-160C environmental category
Conditions	F3ZBB(LV)XXXXXXBXAXXXZXXX
Cooling	Thermostatically controlled brushless fan
Compliance	FAA TSO-C73

Model	Input Current (ADC)	Output Voltage (VRMS) ±5%	Current (ARMS)	Frequency (Hz) ±.5 Hz	Power (VA)	Dimensions (See Figure 1)					Weight	
						LL Inch (MM)	LM Inch (MM)	L Inch (MM)	T Inch (MM)	M.H. Inch (MM)	LB (KG) ±5%	
SS50	20.7	115	4.3	60	500	9.50 (241.30)	8.75 (222.25)	8.09 (205.49)	.06 (1.52)	.20 (5.08)	4.3 (1.95)	
SS100						12.00	11.25	10.60	.08	.28	7.4	
SS101	41.5	115	8.6	60	1000	(304.80)	(285.75)	(269.24)	(2.03)	(7.11)	(3.36)	
SB100						12.00	11.25	10.60	.08	.28	7.4	
SB101	41.5	230	4.3	50	1000	(304.80)	(285.75)	(269.24)	(2.03)	(7.11)	(3.36)	

HS & HB Series TSO'D 50 Hz/60 Hz Lightweight Frequency Changer

The HS and HB series are lightweight frequency changers. These models utilize the latest state of the art, solid state circuitry to convert a 115/200VAC, three-phase, 400 Hz input to either a 115VAC, 60 Hz or 230VAC, 50 Hz sine wave output.

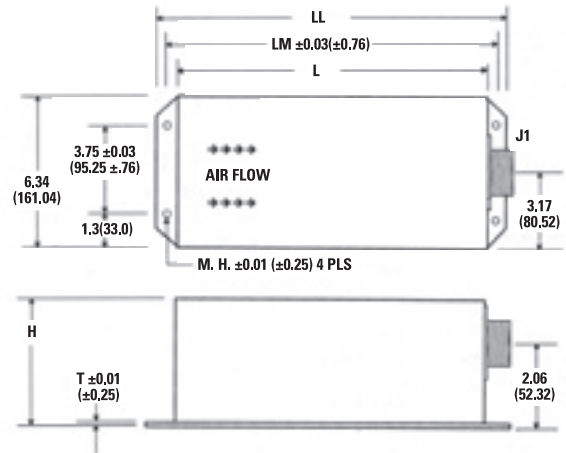
Design features include a crystal controlled oscillator for output frequency stability and a pulse-width-modulated square to sine wave power conversion scheme for reliable and quiet operation.

The model HS and HB series frequency changers are designed to operate television sets, video cassette recorders (VCR), stereo entertainment systems, computers, coffee makers, microwave ovens and EMS equipment.

P/N HS

P/N HB

Outline Dimensions



Specifications

Input Voltage	115/200VAC ± 10VAC, 3-phase
Input Frequency	400 Hz ±100 Hz
Output Wave Form	Sine
Output Phase	Single
Harmonic Distortion	0.5% (nominal)
Power Factor	+.8 to -.8
Efficiency	87% (nominal)
Response Time	300 uSec (no load to full load)
Regulation	1% Line, 1% load, 2.5% temperature
Overload Capacity	110% of the rated power for 2 hrs. 150% of rated output current for 5 min. (minimum) When the operating temp. > 55°C, the overload setting is internally limited to 135% ±10% of the rated output power
Protection Circuits	The converter will shutdown under the following conditions: <ul style="list-style-type: none"> • Input voltage > 135VAC ± 5VAC; Input voltage < 95VAC ± 5VAC • Internal, high ambient temperature; Short circuit condition.
Remote On-Off	Yes
Operating Temperature	-55°C to 71°C (-65°F to + 160°F)
Altitude	55,000'
Environmental Test Conditions	DO-160C environmental category F3ZBB(LV)XXXXXXBXAXXXBXXX
Cooling	Thermostatically controlled, brushless fan.
Compliance	FAA TSO-C73



Model	Input Current (ADC)	Voltage (VRMS) ±5%	Output Current (ARMS)	Frequency (Hz) ±.5 Hz	Power (VA)	Dimensions (See Figure 1)					Weight LBS (KG) ±5%
						LL Inch (1c mm)	LM Inch (1c mm)	L Inch (1c mm)	T Inch (1c mm)	M.H. Inch (1c mm)	
HS50	2	115	4.3	60	500	9.50 (241.30)	8.75 (222.25)	8.09 (205.49)	0.06 (1.52)	0.20 (5.08)	4.40 (2.00)
HS100	3.4	115	8.7	60	1,000	12.00 (304.80)	11.25 (285.75)	10.60 (269.24)	0.08 (2.03)	0.28 (7.11)	7.50 (3.40)
HB100	3.4	230	4.3	50	1,000	12.00 (304.80)	11.25 (285.75)	10.60 (269.24)	0.08 (2.03)	0.28 (7.11)	7.50 (3.40)

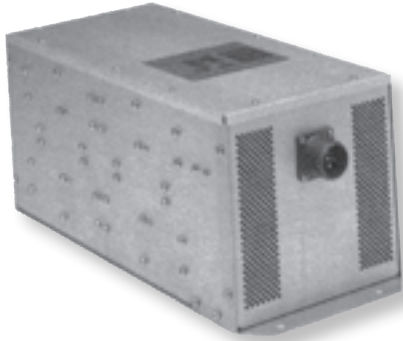
HS-200 & HB-200 TSO'D 50/60 Hz Lightweight Sinewave 2KVA Frequency Converters

The HS200 and HB200 are highly efficient, lightweight AC frequency power converters. These models utilize the latest state of the art solid state circuitry to convert a 115/200Vac, 400 Hz, 3-PH input to 115Vac, 60 Hz or 230Vac, 50 Hz sinewave output.

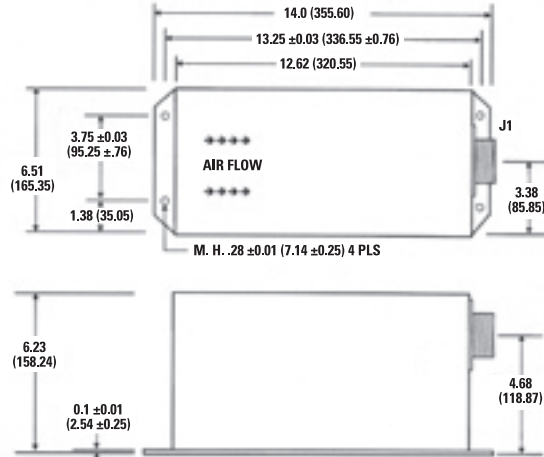
Design features include a crystal-controlled oscillator for output frequency stability and a pulse-width-modulated square to sine wave power conversion scheme for efficient and reliable operation.

The HS200 and HB200 static frequency changers are designed to operate airborne equipment such as TV sets, video cassette recorders (VCR), stereo entertainment systems, computers, coffee makers, microwave ovens and EMS equipment.

P/N HS200
P/N HB200



Outline Dimensions



Dimensions are inch (mm).
Dimensional tolerance is ±0.06 inch (±1.52 mm) unless specified.

Specifications

Input Voltage	115/200VAC ±10VAC	
Input Frequency	400 Hz ±200 Hz	
Output Wave Form	Sine	
Harmonic Distortion	0.5% (nominal)	
Power Factor	+0.8 to -0.8	
Output Phase	Single	
Efficiency	87% (nominal)	
Response Time	300 uSec (no load to full load)	
Regulation	1% line, 1% load, 2.5% temperature	
Overload Capacity	110% of rated power for 2 hrs., 150% of rated power for 5 min.	
Protection Circuit	The inverter will shutdown under the following conditions: <ul style="list-style-type: none"> • Input voltage > 137 ±5VAC • Input voltage < 80VAC ±20VAC • Internal high ambient temperature • Short circuit condition (after 2 to 15 Sec) (manual reset) 	
Remote On-Off	Yes	
Operating Temperature	-55°C to +71°C (-65°F to +160°F)	
Altitude	55,000'	
Environmental	RTCA DO-160C, Env. Cat. F3ZBB[LV]E1XXXXBXAXXXBXXX	
Cooling	Thermostatically controlled brushless fan (On above 50°C)	
Weight	17.7 lbs. (8.04 Kg)	
Compliance	FAA TSO-C73	
	HS200	HB200
Output Voltage	115VAC (108 to 120VAC)	230VAC (216 to 240VAC)
Output Frequency	60 Hz (±0.1 Hz)	50 Hz (±0.1 Hz)

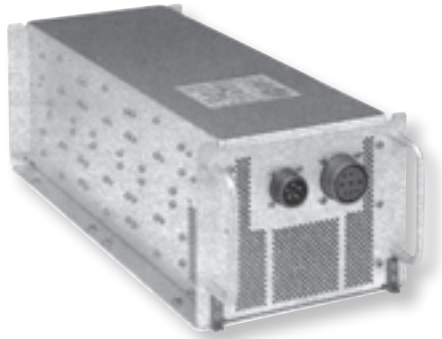
HS 351 TSO'D 60 Hz Lightweight Sinewave 3.5 KVA Frequency Converter

The Hs 351 is a high efficiency, lightweight static frequency converter. This model utilizes the latest state of the art, solid state circuitry to convert 115/200VAC, 400 Hz, 3 Ø input to 115Vac, 60 Hz sine wave output.

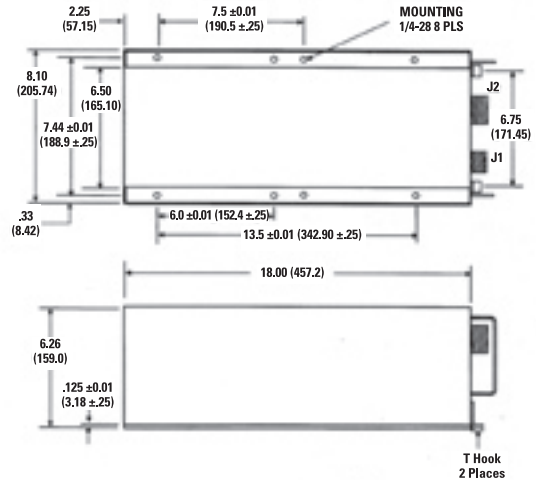
Design features include a crystal controlled oscillator for output frequency stability and a pulse-width-modulated (PWM) square to sine wave power conversion scheme for efficient and reliable operation.

The HS351 frequency converter is primarily designed to operate airborne TV sets, video cassette recorders (VCR), entertainment systems, coffee makers, microwave ovens, computers and EMS equipment.

P/N HS351



Outline Dimensions



Specifications

Input Voltage	115/200VAC ±10VAC
Input Frequency	400 Hz ±200 Hz
Input Current	0.5AAC per phase (nominal) @ NL; 12.5AAC per phase @ 3.5KVA @ 115/200VAC
Output Voltage	115VAC ± 3VAC (nominal), 108 to 120VAC range
Output Frequency	60 Hz ±0.1 Hz
Output Power	3500VA
Output Current	30.4AAC @ full load
Output Phase	Single phase
Output Wave Form	Sine
Harmonic Distortion	0.5% (nominal)
Power Factor	+0.8 to -0.8
Efficiency	87% (nominal)
Response Time	300 uSec (no load to full load)
Regulation	1% line, 1% load, 2.5% temperature
Overload Capacity	110% of rated power for 2 hrs., 125% of rated power for 5 min.
Protection Circuit	The inverter will shutdown under the following conditions: <ul style="list-style-type: none"> • Input voltage > 137 ±5VAC; Input voltage < 80VAC ±20VAC • Internal high ambient temperature; Short circuit condition (after 2 to 15 sec.) (manual reset)
Remote On-Off	Yes
Operating Temperature	-55°C to +71°C (-65°F to +160°F)
Altitude	55,000'
Environmental Test	DO-160C, environmental category F2ZBB(LV)E1XXXXXBXXXXXXX
Cooling	Thermostatically controlled brushless fan (fan "On" above 50°C)
Weight	26 ± 1.0 lbs. (11.8 ±0.45 kg)
Compliance	FAA TSO-C73

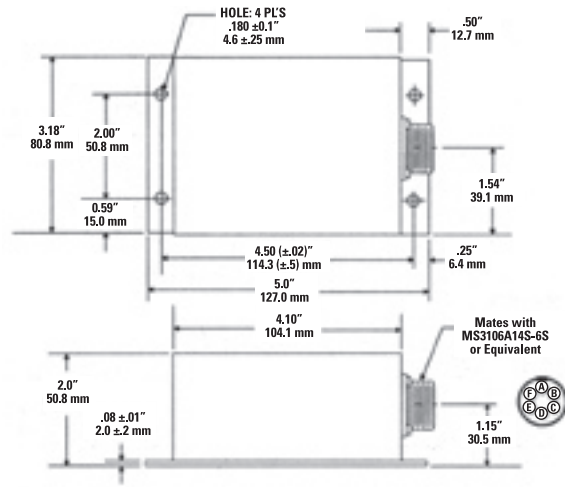
SC-3 TSO'd VA Static Inverter (28VDC to 115VAC, 400 Hz)

The SC3 is a pulse width modulated DC to AC static inverter that provides regulated 115VAC 400 Hz power up to 0.26 AMPS. An internal trim pot is provided to adjust the output voltage $\pm 10\%$. Circuit protection includes low input voltage shutdown, soft start, high input voltage shutdown, output over voltage limit and output short circuit current limit.

P/N SC3



Outline & Mounting Dimensions



Specifications

Input Voltage	28VDC (nominal) 24 to 32VDC; 18VDC to 36.4VDC (abnormal range)
Input Current	1.35 AMPS typical @ 28VDC input @ FL; 0.6 AMPS maximum @ no load
Output Voltage	115VAC +5%, -7%, typically $\pm 3\%$
Output Current	.26 AMPS continuous
Frequency	400 Hz $\pm 1\%$
Distortion (THD)	3% typical @ FL (unity pf) @ 28VDC; 7% maximum for the input range & pf
Isolation	Output is isolated from input
Soft-Start	Minimum soft start delay of 100 mSec @ full load is provided during an application of step input voltage to reduce output in rush current
Power	30VA maximum
Power Factor	.95 leading to .8 lagging power factor
Regulation	3% for load, 2% for line & 3% for temperature
Overload (OL)	Deliver 150% output current for 5 min.
Protection (OL)	Withstands without damage or degradation load exceeding 150% to an output short circuit. Unit delivers rated output power upon removal of the overload condition
Protection (SC)	Under an output short circuit condition, the input current folds back & the output current is limited to a safe value
Protection (OV)	Output voltage is limited to 145VAC maximum
Shutdown (SD)	Output shuts down when input voltage is below 14VDC & above 36.4VDC
Temperature	-55° C to +71° C
Altitude	55,000'
Compliance	FAA TSO-C73
Connector	Unit mates with MS3106A14-6S
Finish	Gold iridite per MIL-C-5541 class 1A
Weight	1 lbs. (454 g)
Size	2.00 H x 3.18 W x 5.00 L"; 50.8 H x 80.8 W x 127.0 L mm; Less protrusion of connector & screw heads

SPC-5 Series TSO'd 50 VA Static Inverters

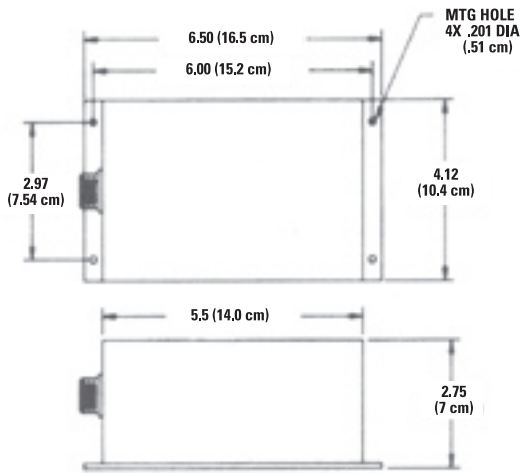
The SPC-5 () series static inverter utilizes solid state circuitry to convert 28VDC to 115VAC, 400 Hz sine wave power. Design features include pulse-width modulated square to sine wave power conversion permitting light weight and reliable operation.

The SPC-5 () series are capable of delivering an overload of 150% of rated current for a duration not less than five minutes under all environmental conditions.

P/N SPC-5(X)



Outline Dimensions



Specifications

	SPC-5 ()	SPC-5 (D0)
Input Voltage (VDC)	20 to 36VDC	11 to 16VDC
Input Current (ADC) @28VDC In	2.7	6.9
Output Power (Total) 115VAC/26VAC	50VA 50VA/30VA	50VA 50VA/30VA
Efficiency (%)	67 to 72	60

Output Voltage	115VAC &/or 26VAC
Phase/Wave Form	Single/sine wave
Frequency	400 Hz ± 1%
Amplification Distortion	< 7% (3% typical)
Power Factor	.8 to -.95
Weight	3.1 lbs.
Input Over voltage	Operate up to 37VDC input while supplying full rating VA output power Output voltage under this condition is 115VAC +5%, 7%

Input Transient Protection	Withstands transients of 88V 1 mSec on the 28VDC input line
Overload & Short Circuit Protection	Withstands without damage or degradation load exceeding 150% of rated output to an output dead short. Inverter delivers rated output on removal of above conditions

Altitude	55,000'
Temperature	-65° F to +160° F (-55° C to +71° C)
Humidity	Tested to > 95% for 10 days, temperature was cycled between 75° F to 160° F

Environmental	Designed to meet RTCA paper DO-160 environmental category D2BR--
---------------	--

Feature/Model	SPC-5 ()	SPC-5 (A)	SPC-5 (B)
Output Control	No	Yes	No
Fault Monitor	No	No	Yes

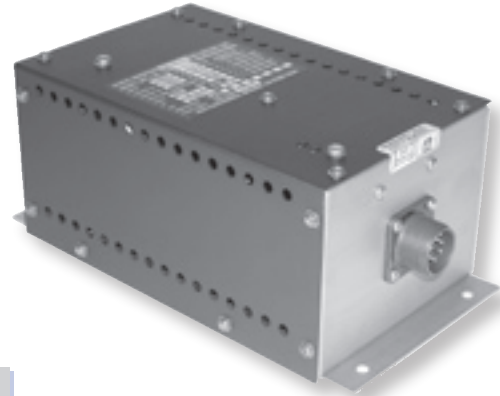
PINS	SPC-5()	SPC-5(A)	SPC-5(B)	SPC-5(C)	SPC-5(D)
A	28VDC input	28VDC input	28VDC input	28VDC input	14VDC input
B	DC ground	DC ground	115VAC out	DC ground	DC ground
C	AC return	AC return	AC return	AC return	AC return
D	115VDC out	115VAC out	DC ground	N/C	115VAC out
E	N/C	To PIN G*	Remote On/Off	N/C	26VAC output
F	26VAC output	26VAC output	Fault monitor	26VAC output	
G		To PIN E*	26VAC output		
Mate	MS3106B14S-6S	MS3106B16S-1S	MS3106B18-9S	MS3106B14S-6S	MS3106B14S-5S

SPC-10 Series TSO'D 100 To 350 VA Static Inverters

The SPC-10 () series static inverter utilizes solid state circuitry to convert 28VDC to 115VAC, 400 Hz sine wave power. Design features include pulse-width modulated square to sine wave power conversion permitting light weight and reliable operation.

The SPC-10 () series are capable of delivering an overload of 150% of rated current for a duration not less than five min. under all environmental conditions.

P/N SPC-10(X)

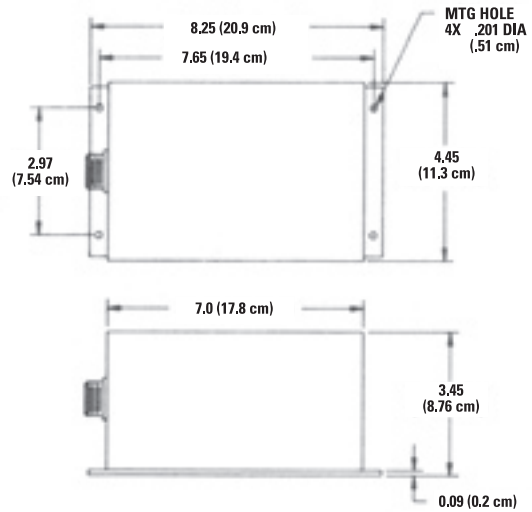


Specifications

	SPC-10()	SPC-10(F) & (N)	SPC-10(H)
Input Voltage (VDC)			
Normal	22 to 32	24 to 32	24 to 32
Abnormal	20 to 37	18 to 36.4	20 to 36.4
Input Current (ADC)			
@ 28VDC In	4.8	10.6	15.0
Output Power (Total)	100VA	250VA	350VA
115VAC/26VAC	100VA/60VA	250VA/150VA	350VA/150VA
Efficiency (%)	75 to 78	82 minimum	80 minimum
Weight	5.2 lbs.	5.5 lbs.	5.6 lbs.

Output Voltage	115VAC &/or 26VAC
Phase/Waveform	Single/sine wave
Frequency	400 Hz ±1%
AMPS Distortion	< 7% (3% typical)
Power Factor	.8 to -.95
Input Over voltage	Operate up to 37VDC input while supplying full rated VA output power. Output voltage under this condition is 115VAC +5%, -7%.
Input Transient Protection	Withstands transient of 88V lasting 1 mSec on the 28VDC input line
Overload & Short Circuit Protection	Withstands without damage or degradation loads exceeding 150% of rated output to a dead short. Inverter delivers rated output on removal of above condition.
Altitude	55,000'
Temperature	-65°F to +160°F (-55°C to +71°C)
Humidity	Tested to > 95% for 10 days, temperature was cycled between 75°F to 160°C
Environmental	Qualified to meet RTCA paper DO-160 environmental category D2BR-----

Outline Dimensions



PINS	SPC-10()	SPC-10(D)	SPC-10(F)	SPC-10(H)	SPC-10(N)
A	28VDC Input	28VDC input	Remote on/off	Remote on/off	Fault monitor
B	DC ground	115VAC output	115VAC output	115VAC output	28VDC input
C	AC return	AC return	AC return	AC return	Phase lock
D	115VAC output	DC Ground	On/off return	On/off return	DC ground
E	No connection	Remote on/off	No connection	Fault monitor	Remote on/off
F	26VAC output	Fault monitor	Phase lock	Phase lock	AC return
G		26VAC output	26VAC output	26VAC output	115VAC output
H			28VDC input	28VDC input	26VAC output
I			DC ground	DC ground	
J					On/off return
MATE	MS3106B14S-6S	MS3106B18-9S	MS3106B20-16S	MS3106B20-16S	MS3476L14-9S

SPC-10 Series TSO'd 250 VA Static Inverter

The KGS electronics models listed below are low profile versions of our TSO'd SPC-10 () series static inverter. These inverters convert 28VDC electrical power from 18VDC to 37VDC into monophasic sine wave, regulated 400 Hz electrical power.

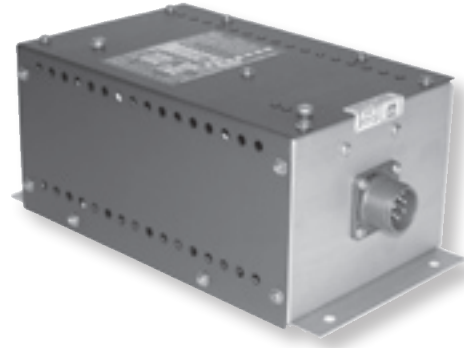
Regulation of the alternating 400 Hz output is accomplished by the popular, single integrated PWM circuit in conjunction with a "True RMS to DC Converter" chip for both the voltage control and current limit.

These inverters are primarily designed to power airborne and ground instruments, compasses, gyros, radar and navigation equipment.

P/N SPC-10J

P/N SPC-10T

P/N SPC-10U



Specifications

Input Voltage	28VDC (nominal); 24 to 32VDC normal range
Current	10.6 AMPS @ 28VDC input & 1.1 AMPS maximum @ no load
Output Power	250VA @ 115V RMS & 150VA @ 26V RMS output; Sum of the two outputs not to exceed 250VA
Voltage	115/26V RMS \pm 1.5% typical for load line & temperature
Frequency	400 Hz \pm 1%
Regulation	2% typical for line load & temperature
Distortion	3.0% typical @ 28VDC in
Efficiency	82% minimum
Protection	Withstands output short circuit condition; Unit delivers rated output signal on removal of short
Temperature	-55°C to +71°C
Altitude	55,000'
Environmental	DO-160B environmental category D2BREXXXXXBBAA/F2BREWXDFSAAAZZ
Size	2.75" H x 5.00" W x 8.25"; 6.99 cm H x 12.7 cm W x 20.9 cm L
Weight	5.4 lbs. (2.45 Kg)

DES NO	PIN A	PIN B	PIN C	PIN D	PIN E	PIN F	PIN G	PIN H	PIN I
1	28VDC	115VAC	AC RTN	DC RTN	Ø lock	Remote	26VAC		
2	28VDC	115VAC	AC RTN	DC RTN	N/C	Ø lock	26VAC		
3	Remote	115VAC	AC RTN	CH ground	N/C	Ø lock	26VAC	28VAC	DC RTN

KGS Low Profile Models	Abnormal EIN Range (VDC)	Rating (VA)		Feature			Connector Mating Plug Part Number	PIN DES NO.
		115V	26V	R	F	Ø		
SPC-10(J)	18-36.4	250	150	✓	✓	✓	MS3106A18-9S/881 (Switchcraft)	1
SPC-10(T)	18-36.4	250	150			✓	MS3106A18-9S	2
SPC-10(U)	18-36.4	250	150	✓		✓	MS3106A20-16S	3

Feature R = Remote on/off
 F = Fault monitor
 Ø = Phase lock

SPC-30 () Series TSO'd 300 VA Static Inverter

The SPC-30 () series static inverter utilizes solid state circuitry to convert 28VDC to 115VAC, 400 Hz sine wave power. Design features include SINE to SINE AC power amplification permitting light weight and virtually no generation of EMI emissions.

The SPC-series are capable of delivering an overload of 150% of current for a duration not less than five minutes under all environmental conditions.

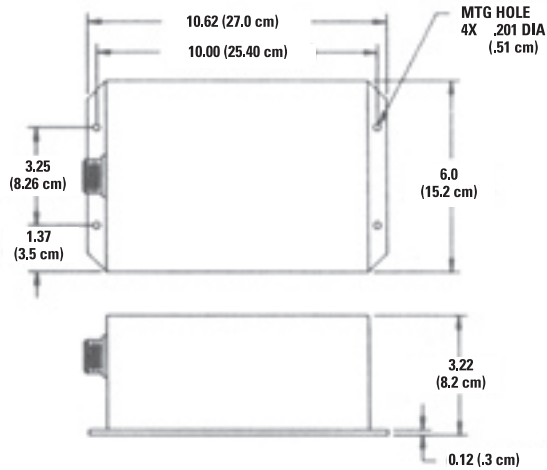
P/N SPC-30(X)

Features

The SPC-30 () has remote on-off features by completing a connection to ground, the unit will turn "on". This feature eliminates the need for a heavy and expensive "on-off" solenoid or actuator.



Outline Dimensions



Specifications

Input Voltage	28.0VDC ± 2VDC, operates electrically down to 20VDC.
Power Factor	.8 to 1.0
Amplitude Distortion	3% typical (7% maximum)
Wave Form	Sine wave
Phase	Single
Temperature	-65°F to +160°F (-55°C to +70°C)
Altitude	55,000'
Efficiency	70% typical
Input Over voltage	Withstand 130% input over voltage for 5 min. while supplying full rated VA output power output voltage under this condition 115VAC +5% -7%
Input Voltage Protection	Inverter withstands transients of 88V lasting 1 mSec on the 28.0VDC input line
Overload Capacity	Capable of 150% output current overload for @ least 5 min.
Excessive Overload & Output Short Circuits	Withstand without damage or degradation loads exceeding 150% of rated output to an output short circuit-inverter delivers rated output on removal of above conditions
Humidity	Tested to > 95% for ten days, temperature cycled between 75°F to 160°F
Vibration	Tested to withstand in three directions: .08 DA 5-15 Hz .036 DA 15-70 Hz; 10 G's 70-500 Hz
Shock	Tested to withstand @ least 10 G's for 11 mSec in 3 directions
Emission RFI	Radiated & conducted... 90 KHz to 100 MHz, far below specification limits of RTCA paper 120-61/DO-108, appendix A

Model	Output Voltage	Output Power VA	Connector Plug (2)	Input Current ADC	Weight LBS. (KG)
SPC-30 ()	26/115VAC	75/300(1)	MS3106B18-9SW	16	8.1 (3.7 Kg)
SPC-30 (A)	26/115VAC	75/300(1)	MS3106B18-9S	16	7.6 (3.5 Kg)

SPC-38 () Series TSO'D 375 VA Static Inverter

The SPC-38 () static inverter utilizes solid state circuitry to convert 28VDC to 115VAC, 400 Hz sine wave power. Design features include transformerless square to sine power conversion permitting light weight and reliable operation. The SPC-38 () is capable of delivering an overload of 150% of rated power for a duration not less than five minutes under all environmental conditions.

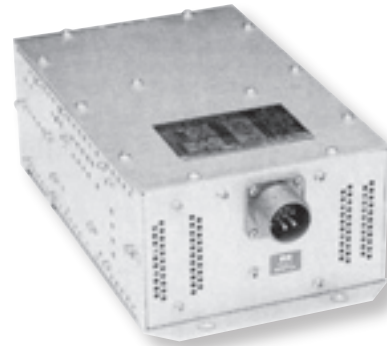
P/N SPC-38

Features

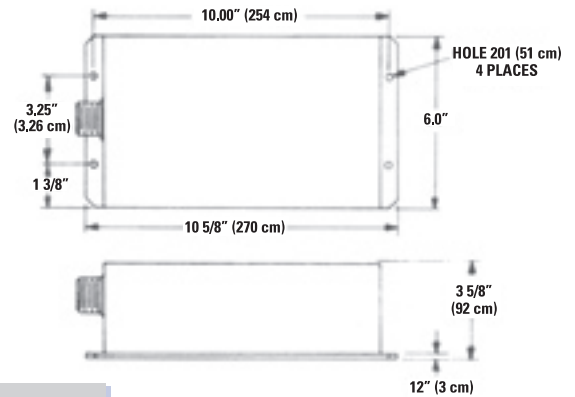
- Foldback current limit during overload. 200% output current capability for fault clearance.
- Remote on-off feature to eliminate the need for a heavy and expensive solenoid.
- Shut down in the event of low/hi frequency and over voltage malfunction.
- Soft start logic in conjunction with step input and any restart after output short, output shutdown or remote off. Prevents inverter from drawing heavy surge current during start transition.
- Fault monitor output for malfunction indication noted above.

Specifications

Input Voltage	28.0VDC ±4VDC (nominal), range: 20 to 37VDC
Input Current	16 AMPS @ full load; 2 AMPS maximum @ no load
Output Voltage	-5% -7% (±2% typical on 115V)
Output #1	115VAC (375VA maximum cont.)
Output #2	26VA (75VA maximum cont.)
Output Power	375VA total maximum cont. (sum of 115 & 26VAC output)
Output Frequency	400 Hz ±1%
Phase & Waveform	Single phase sine wave
Harmonic Distortion	2.0% typical (5% maximum) 20 to 37VDC in
Power Factor	.8 to -.95
Efficiency	83% typical
Temperature	-55°C to 71°C
Weight	8.0 lbs.
Overload Capacity	Capable of 150% output current @ normal AC output for 5 min.
Input Over voltage	Withstand 130% input over voltage for 5 min. while supplying full rated VA output power. Output voltage under this condition 115VAC +5%-7%
Input Voltage Protection	Inverter withstands transients of 88V lasting 1 mSec on the 28.0VDC input line
Excessive Overload & Output Short Circuits	Withstands without damage or degradation loads exceeding 150% of rated output to an output short circuit; inverter delivers rated output on removal of above conditions 200% output current for fault clearance
Altitude	55,000'
Humidity	Tested to > 95% for ten days, temperature cycled between 75°F to 160°F
Environmental	Qualified to meet RTCA DO-160 environmental category D2BR----



Outline Dimensions



Model	Output Voltage	Output Power VA	Connector Plug (2)	Input Current ADC	Weight LBS. (KG)
SPC-38 ()	26/115VAC	75/375 (1)	MS3106B18-9S	20 to 37	8.5 (3.8 Kg)
SPC-38 (A)	26/115VAC	75/375 (1)	MS3106B18-9SW	20 to 37	8.5 (3.8 Kg)
SPC-38 (B)	26/115VAC	75/375 (1)	MS3106B18-9SW	20 to 37	8.5 (3.8 Kg)
SPC-38 (T)	26/115VAC	75/375 (1)	MS3106B18-9S	16 to 32	8.5 (3.8 Kg)

SC-50 TSO'd 500 VA Static Inverter

The SC-50 is a lightweight, static inverter that utilizes the latest state of the art, solid state circuitry to invert a 28VDC input to a 115VAC, 400 Hz sine wave output.

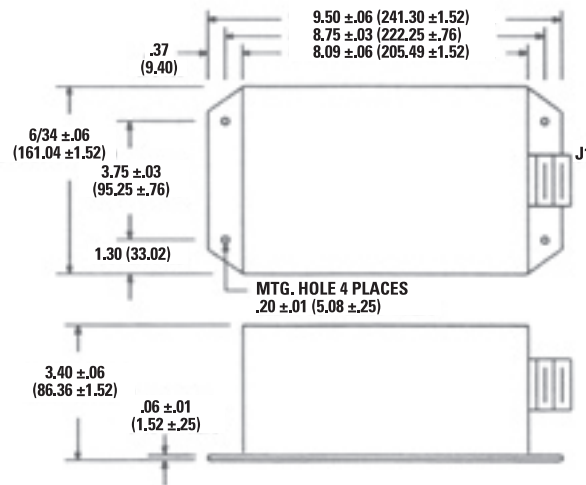
Design features include a crystal controlled oscillator for output frequency stability and a pulse-width-modulated square to sine wave power conversion scheme for reliable operation.

The SC-50 is primarily designed to power airborne and ground instruments, compasses, gyros, radars and navigation equipment.

P/N SC-50



Outline Dimensions



PIN Number	Description
A	Input +28VDC
B	Output 115VAC, 400 Hz
C	Output common
D	Input return, chassis ground
E	Remote on/off ground to "ON"
F	N/C
G	Output 26VAC, 400 Hz
Mate	MS3106A18-9S or equivalent

Specifications

Input Voltage	28VDC (nominal); 20VDC to 36.5VDC range
Input Current	20.7ADC @ full load; 0.5 ADC @ no load
Output Voltage	+5%, -7% (±2% typical on 115V)
#1	115VAC
#2	26VAC
Output Power	500VA total of 115V & 26V
115VAC	500VA
26VAC	100VA
Output Frequency	400 Hz ±1.0 Hz
Phase & Waveform	Single phase & sinusoidal
Harmonic Distortion	0.7% (nominal), 3% maximum
Power Factor	+8 to -.8
Efficiency	87% (nominal)
Regulation	1% line, 1% load, 2.5% temperature
Weight	4.9 lbs. (2.22 Kg)
Response Time	300 uSec (NL to FL)
Overload Capacity	110% of rated output power for 2 hrs. 150% of rated output power for 5 min.
Protection Circuits	The inverter will shutdown under the following conditions: <ul style="list-style-type: none"> Input voltage > 37.5VDC ± 1.0VDC; input voltage < 18.0VDC ±1.5VDC Internal high ambient temperature; output short circuit condition
Remote On/Off	Yes, grounded to "On"
Operating Temperature	-55°C to +71°C (-65°F to +160°F)
Altitude	55,000'
Environment	RTCA DO-160C environmental category F2ZBB(LV)XXXXXXBAXXXZXXX
Cooling	Thermostatically controlled brushless fan
Compliance	FAA TSO-C73

SPC-60 () Series TSO'd 600 & 750 VA Static Inverter

The SPC-60 () static inverter utilizes solid state circuitry to convert 28VDC to 115VAC, 400 Hz sine wave power. Design features include sine to sine wave power conversion permitting light weight and reliable operation.

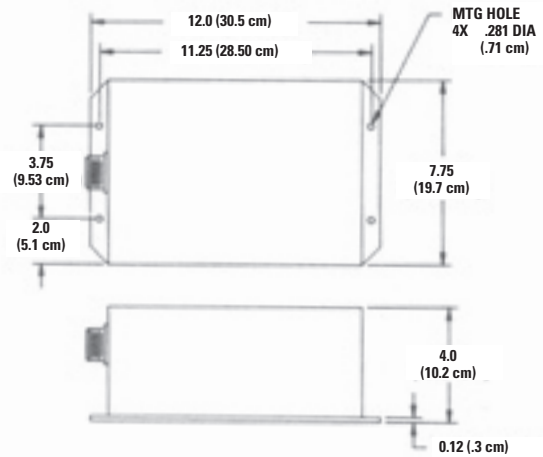
The SOC-60 () is capable of delivering an overload of 150% of rated current for a duration not less than five minutes under all environmental conditions.

Some SPC-60 () units have a remote "on-off" provision. This feature eliminates the need for a heavy and expensive "on-off" actuator. A resistance sensitive on-off control circuit is built in the SPC-60 (B) which is designed for windshield heating.

P/N SPC-60



Outline Dimensions



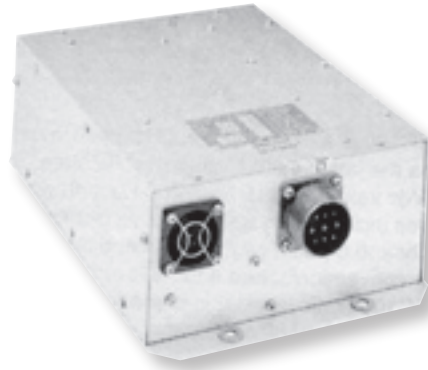
Model	Output Voltage	Output Power	Frequency Hz	Input Current ADC	Weight Lbs. (KG)
SPC-60 () (1)	26/115VAC	125/600	400 ± 1%	31	14.0 (6.4 Kg)
SPC-60(A)	26/115VAC	125/600	400 ± 1%	31	14.0 (6.4 Kg)
SPC-60(B) (2)	208/240VAC	600/600	400 ± 1%	31	14.0 (6.4 Kg)
SPC-60(C)	26/115VAC	125/600	400 ± 1%	31	14.0 (6.4 Kg)
SPC-60(E)	26/115VAC	150/750	400 ± 1%	37	14.2 (6.45 Kg)

Specifications

Input Voltage	28.0VDC (nominal) ± 2VDC; range 22 to 30VDC
Power Factor	.8 to -.95
Amplitude Distortion	< 7%
Wave Form	Sine wave
Phase	Single
Temperature	-65°F to 160°F (-55°C to + 70°C)
Altitude	55,000'
Efficiency	70% typical
Input Over voltage	Withstand 130% input over voltage for 5 min. while supplying full rated VA output power; output voltage under this condition 115VAC + 5% to 7%
Overload Capacity	Capable of 150% output current for @ least 5 min.
Input Voltage	Inverter withstands transients of 88
Protection	Volts lasting 1 mSec on the 28.0VDC input line
Excessive Overload and Output Short Circuits	Withstand without damage or degradation loads exceeding 150% of rated output to an output short circuit. Inverter delivers rated output on removal of above condition
Humidity	Tested to > 95% for 10 days, temperature was cycled between 75°F to 160°F
Environment	Designed to meet RTCA DO-160 environmental category D2BR---

SPC-75 Series TSO'd 750 VA Static Inverter

The SPC-75() static inverter utilizes solid state circuitry to convert 28VDC to 115VAC, 400 Hz sin wave power. Design features include transformerless square to sine power conversion permitting light weight and reliable operation. The SPC-75 () is capable of delivering an overload of 150% of rated power for a duration not less than five minutes under all environmental conditions.



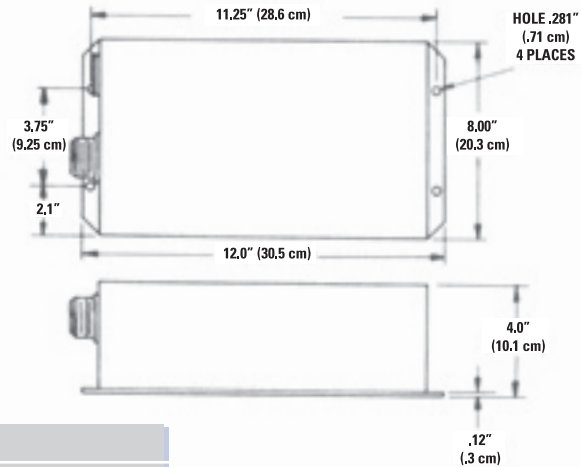
Features

- Foldback current limit during overload.
- 200% output current capability for fault clearance.
- Remote on-off feature to eliminate the need for a heavy and expensive solenoid.
- Shut down in the event of low/hi frequency and over voltage malfunction.
- Soft start logic in conjunction with step input and any restart after output short, output shutdown or remote off. Prevents inverter from drawing heavy surge current during start transition.
- Fault monitor output for malfunction indication.

P/N SPC-75(X)

P/N SPC-75B

Outline Dimensions



Specifications

Input Voltage	28.0VDC ±4VDC (nominal), range: 20 to 37VDC
Input Current	32A @ full load, 3A maximum @ no load
Output Voltage	+5% -7% (±2% typical on 115V)
Output #1	115VAC (750VA maximum cont)
Output #2	26VAC (150VA maximum cont)
Output #3	5VAC (30VA maximum cont)
Output Power	75VA total maximum
Output Frequency	400 Hz ± 1%
Phase & Waveform	Single phase sine wave
Harmonic Distortion	2.0% typical (5% maximum) 20 to 37VDC in
Power Factor	.8 to -.95
Efficiency	83% typical
Temperature	-55°C to +71°C
Weight	14.0 lbs.
Overload Capacity	Capable of 150% output current @ normal AC output for 5 min.
Input Over voltage	Withstand 130% input over voltage for 5 min. while supplying full rated VA output power. Output voltage under this condition 115VAC +5% -7%
Input Voltage Protection	Inverter withstands transients of 88V lasting 1 mSec on the 28.0VDC
Excessive Overload & Output Short Circuits	Withstand without damage or degradation loads exceeding 150% of rated output to an output short circuit. Inverter delivers rated output on removal of above conditions. 200% output current for fault clearance
Altitude	55,000'
Humidity	Tested to > 95% for 10 days. temperature cycled between 75°F to +160°F
Environmental	Qualified to meet RTCA DO-160 environmental category D2BR----
Mating Plug	MS3106A24-11S

Model **Frequency Synchronizing (Phase Locking Within 5°)**
 SPC-75(B) Phase lock 375 Hz to 425 Hz, no shutdown.

Model **Frequency Synchronizing**
 SPC-75() Synchronize from 375 Hz to 425 Hz
 1. Total continuous output power is 750VA

SC-100 TSO'd 400 Hz Lightweight Sinewave 1 KVA Static Inverter

The SC100 is a lightweight 400 Hz static inverter. This model utilizes the latest state of the art, solid state circuitry to invert a 28VDC input to a 115VAC, 400 Hz sine wave output.

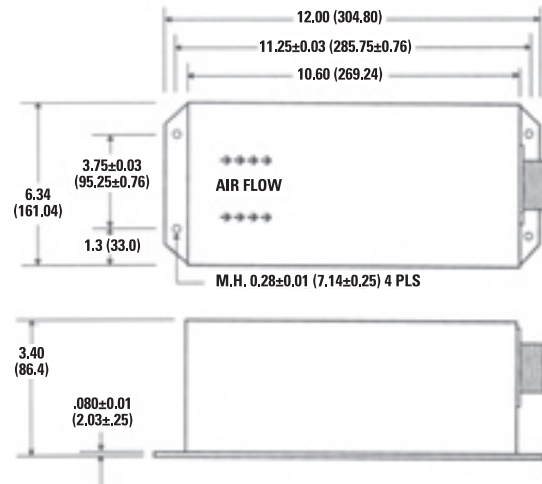
Design features include a crystal-controlled oscillator for output frequency stability and a pulse-width-modulated square to sine wave power conversion scheme for efficient and reliable operation.

The SC100 static inverter is primarily designed to power airborne and ground instruments, compasses, gyros, radar and navigation equipment.

P/N SC100



Outline and Mounting Dimensions



Model SC100 External Wiring

PINS	Model: SC100
A	No connection
B	Output 115VAC, 400 Hz
C	Output return (neutral floating)
D	DC input +28VDC
E	Remote on-off (to PIN H or ground for "On")
F	C input return, chassis ground
G	No connection
H	Remote on-off return (chassis ground)
I	No connection
Mate	MS3106*24-11S*=A, B, E, F, R or equivalent

Specifications

Input Voltage	28VDC (nominal), 20VDC to 36.5VDC range
Current	1.0ADC (nominal) @ NL; 41.5ADC @ 1 KVA @ 28VDC
Output Voltage	115VAC ± 3VAC (nominal)
Power/Current	1000VA/8.6AAC
Frequency	400 Hz ± 0.4 Hz
Phase & Wave Form	Single phase, sinewave
Harmonic Distortion	2.5 % (nominal)
Power Factor	+0.8 to -0.8
Efficiency	87 % (nominal)
Response Time	300 uSec (no load to full load)
Regulation	1 % Line, 1 % load, 2.5 % temperature
Overload Capacity	110% of rated power for 2 hrs.; 150% of rated power for 5 min.
Compliance	FAA TSO-C73
Protection Circuit	The inverter will shutdown under the following conditions: <ul style="list-style-type: none"> • Input voltage 37.5 ±1VDC • Input voltage ≤ 18VDC ±1.5VDC • Internal high ambient temperature • Short circuit condition (after 2 to 15 sec.) (manual reset)
Remote On-Off	Yes (ground for "On")
Operation Temperature	-55° C to +71° C (-65° F to +160°F)
Weight	7.5 ±.3 lbs. (3.4 ± .14 Kg)
Altitude	55,000'
Environmental	DO-160C environmental category F2ZBBSLV<E1XXXXXBXXXXXXX
Cooling	Thermostatically controlled brushless fan (fan on above 50°C)

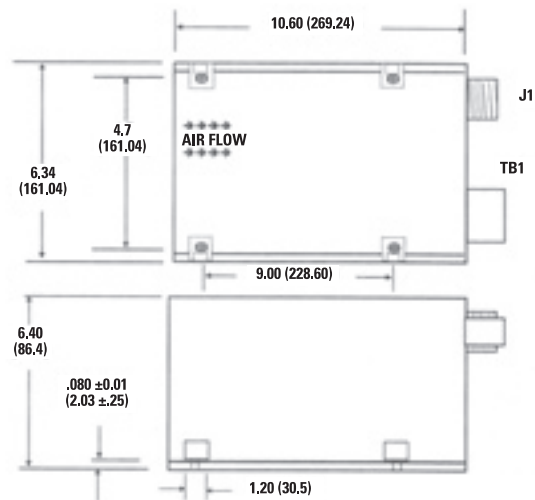
SCA-150 TSO'd 400 Hz, Lightweight Sinewave 1.5 KVA Static Inverter

The SCA150 is a single phase, 400 Hz lightweight static inverter. This model utilizes the latest state of the art, solid state circuitry to invert a 28VDC input to 115VAC and 26VAC, 400 Hz sine wave outputs. Design features include a crystal-controlled oscillator for output frequency stability and a pulse-width-modulated (PWM) square to sine wave power conversion scheme for efficient and reliable operation. The SCA150 static inverter is primarily designed to power airborne and ground instruments, compasses, gyros, radar and navigation equipment.

P/N SCA150



Outline and Mounting Dimensions



PIN Connections

PINS	Model: SCA150
A	Output 115VAC, 400 Hz
B	Output 115VAC, 400 Hz (connected to PIN A & C)
C	Output 115VAC, 400 Hz (connected to PIN A & B)
D	No connection
E	Output 26VAC, 400 Hz
F	No connection
G	Output common, neutral
Mate	MS3106*24-2S* = A, B, E, F, R or eq.
TB1	MS25044-1
+	DC input +28VDC
-	DC input return, chassis ground

Specifications

Input Voltage	28VDC (nominal), 20VDC to 36.5VDC range
Current	1.8ADC (nominal) @ NL; 64ADC (nominal) @ 1.5 KVA @ 28VDC.
Output Voltage	115VAC & 26VAC
Current	13AAC for 115VAC; 19.2AAC for 26 Fac
Power	1500VA for 115VAC; 500VA for 26VAC; 1500VA total maximum output power
Frequency	4000 Hz ± 0.4 Hz
Phase & Waveform	Single phase, sinewave
Harmonic Distortion	2.5% (nominal)
Response Time	300 uSec (no load to full load)
Regulation	1 % Line, 1 % load, 2.5 % temperature
Overload Capacity	110% of rated power for 2 hrs., 150% of rated power for 5 min.
Compliance	FAA TSO-C73
Protection Circuit	The inverter will shutdown under the following conditions: <ul style="list-style-type: none"> • Input voltage ≥ 37.5 ± 1VDC (automatic recovery) • Input voltage ≤ 18VDC ± 1.5VDC (automatic recovery) • Internal high ambient temperature (automatic recovery) • Short circuit condition (after 2 to 15 sec.) (manual reset)
Power Factor	+0.8 to -0.8
Efficiency	84 % (nominal)
Remote On-Off	Yes
Operation Temperature	-55° C to +71° C (-65° F to +160°F)
Weight	18 ± 0.6 lbs. (8.17 ± 0.27 Kg)
Altitude	55,000'
Environmental	DO-160C environmental category F2ZBB[LV]E1XXXXXBXXXXZXXX
Cooling	Thermostatically controlled brushless fan (on above 50°C)

SE-25 TSO'd 250 VA Three Phase Static Inverter

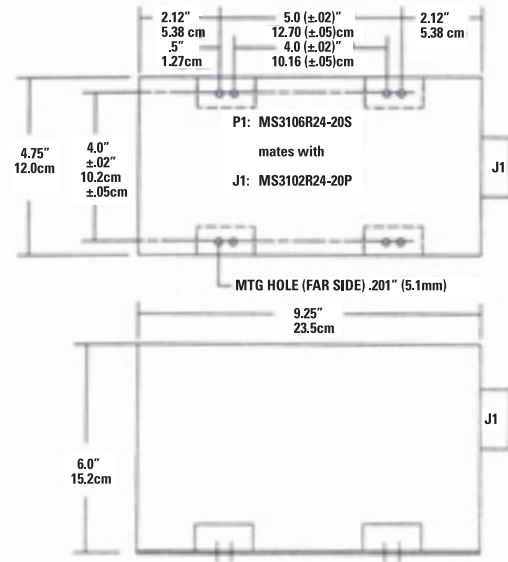
The SE25 is primarily designed to power a 115VAC line to neutral or line to line 400 Hz three phase Wye or Delta system with maximum continuous output power of 250VA. SE25 inverter applications include airborne or ground instruments, navigation equipment and radar systems.

The SE25 operates from a 28VDC source and the output can be configured for three wire 115V delta load, or four wire 115/200V wye load. Each AC output phase (ØA, ØB, ØC) is isolated from the DC input and chassis ground. An internal trim pot is provided to adjust each of the 115VAC outputs $\pm 10\%$. The SE25 is interchangeable dimensionally with 250VA inverters conforming to MS21983-3.

P/N SE-25



Outline & Mounting Dimensions



Specifications

Input Voltage	28VDC ± 4 VDC
Current	10.7 AMPS typical @ 28VDC/85VA load per phase; 1.1A maximum @ no load
Output Voltage	3-wire Δ : 115V RMS $\pm 3\%$ line to line 4-wire wye; 115V RMS $\pm 3\%$ line to neutral 200V RMS $\pm 3\%$ line to line
Load Unbalance	Maximum load unbalance is 20% for specification performance
Current	Delta 115V line to line: .73 AMPS per phase Wye 115V line to neutral: .73 AMPS per phase Wye 200V line to line: .43 AMPS per phase
Power	85VA per phase, 250VA total
Phase Angle	$120^\circ \pm 5^\circ$
Frequency	400 Hz $\pm 1\%$
Waveform	Sine wave/three phase \emptyset configuration
Power Factor	.8 lagging to .95 leading power factor
Distortion	7% maximum (3.0% typical @ 28VDC in)
Overload (OL)	150% output current for @ least 5 min.
Short Circuit	200% output current for 1 min.
Soft Start	Soft start delay of approximately 500 mSec
Reverse Polarity	The inverter is protected against reverse polarity applied @ the input
Efficiency	81% minimum
Temperature	-65°F to $+185^\circ\text{F}$ (-55°C to $+85^\circ\text{C}$)
Altitude	75,000'
Weight	8.4 lbs. (3.81 Kg)
Environmental	Designed to FAA TSO-C73 appendix A & DO-160C environmental category F2WBBTEWXDFSAAAZZUZKXX
Compliance	FAA TSO-C73: interchangeable dimensionally with 250VA units conforming to MS21983-3

SPC6-750A Frequency Changer 50-60 Hz to 400 Hz

The SPC6-750A solid state frequency changer converts 115VAC 50/60 Hz to 115VAC 400 Hz sine wave power. The SPC6-750A is suitable for use on test benches to check radars, compasses and gyros or to power flight simulators.

The SPC6-750A-230 and SPC6-750C are frequency changer models available for 230VAC/50 Hz operation.

P/N SPC6-750A

P/N SPC6-750C



Specifications

Input Voltage	115VAC \pm 15VAC
Input Frequency	50/60 Hz
Input Phase	Single
Input Protection	1. Protected from input over voltage (unit will shut itself off above 135VAC) 2. Protected from over current with 15 AMPS circuit breaker; this circuit breaker is also used for the input power on-off switch
Output Voltage*	115VAC (100 to 125VAC adjustable) 26VAC (22.6 to 28.2VAC adjustable)
Output Power	115VAC out—750VA; 26VAC out—500VA; total output power 750VA
Output Frequency*	400 Hz (380 to 420 Hz adjustable)
Phase	Single
Wave	Sine
Amplitude Distortion	2% typical
Power Factor	.8 to -.95
Overload	Delivers 150% current for @ least 5 min.: withstand short circuit for 1 min. minimum
Protection	1. Unit will shut itself off @ the following: <ul style="list-style-type: none"> • Under frequency, < 375 Hz • Over frequency, > 425 Hz; over voltage, > 130VAC 2. Unit will trigger audible warning above 130% overload
Temperature	-40°C to +71°C
Weight	32 lbs.
Size	17" W x 13" D x 7" H for 19" relay rack
Cooling	Internal fan, thermostatically controlled
Connections	5-way binding posts for front panel connection. 6-32 terminal block for rear panel connection

* adjusted from front panel

SPC-6-1500 & SPC-6-1501 Frequency Changer

The SPC-6-1500 and SPC-6-1501 are frequency changers which utilize switchmode technology to enhance product performance.

Major design elements utilized in these frequency changers are as follows:

Power input coupling circuit: This circuit has two major functions; it boosts the input voltage so that normal operation is achieved when the input varies from 105 to 240VAC and controls the input current waveform such that it closely resembles the input voltage waveform (meets IEC specification 555-2, class A.) This is in contrast with conventional power supplies which draw large magnitudes of current during peak amplitudes of the input voltage waveform.

DC to DC converter: This circuit uses an isolation transformer to couple energy from the input circuit to the output inverter. This completely isolates the output power from the input power line.

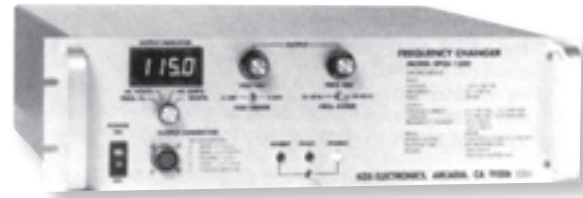
Output inverter Model SPC-6-1500: The output consists of two inverters which are connected in series for the 0 to 260VAC operating range and in parallel for the 0 to 130VAC operating range. Separate output terminals are provided in order to minimize the possibility of incorrect external connections (i.e. 130VAC load connected to a 260VAC output).

Model SPC-6-1501: The output consists of two inverters which are connected in parallel.

The SPC-6-1500 and SPC-6-1501 are designed for use on test benches to check radars, compasses, gyros and other navigation equipment where regulated voltage and frequency are required.

P/N SPC-6-1500

P/N SPC-6-1501



Specifications

Input Voltage	105VAC to 240VAC, single phase, 45 Hz to 440 Hz
Input Protection	MOV line to line, inrush current limit
Input Harmonics	Meets requirements of IEC 555-2, class A

	SPC-6-1500	SPC-6-1501
Output Voltage	0 to 130VAC 0 to 260VAC	0 to 130VAC 0 to 30VAC
Output Current	130VAC range: 12.5 ARMS, 30 A peak 260VAC range: 6.25 ARMS, 15 A peak	130VAC range: 12.5 A RMS, 30 A peak 0 to 30VAC range: 5.77 A RMS, 12 A peak
Output Power	1,000 watts	1,000 watts (0 to 30VAC range: 150 watts)
Output Volt/AMPS	1,500VA	1,500VA
Output Frequency	45 to 140 Hz 140 to 440 Hz	350 to 440 Hz
Output Freq. Stability	0.25%	0.25%
Phase & Waveform	Single-phase, sine	Single-phase, sine
Distortion	2% maximum into full linear load	2% maximum into full linear load
Regulation	2% Line, 2% load	2% Line, 2% load
Efficiency	80%	80%
Power Factor	0 to unity	0 to unity
Protection	Over current & over temperature	Over current & over temperature
Cooling	Quiet, brushless DC fan	Quiet, brushless DC fan
Led Indicator	RMS volts, RMS AMP frequency, true power	RMS volts, RMS AMP frequency, true power
Display Accuracy	.2% reading, + 1% full scale	.2% reading, + .1% full scale
Weight	20 lbs.	21.5 lbs.
Size	19" W x 17.5" D x 5.25" H (19" relay rack mounting)	19" W x 17.5" D x 5.25" H (19" relay rack mounting)
Mating Plug	MS3106A14S-5S	MS3106A14S-5S

SPC-6-1000-3 PH Frequency Changer 50-60 Hz to 400 Hz, 3-Phase

The SPC-6-1000-3PH lightweight, solid state frequency changer converts 115VAC 50/60 Hz to 115/200VAC and 26/45VAC, 400 Hz 3Ø sine wave power. The SPC-6-1000-3PH is suitable for use on test benches or labs to check radars, compasses, gyros, synchros or any instrument requiring 3-phase power.

The SPC-6-1000-3PH-230 and SPC-6-1000-3PHC are frequency changer models available for 230VAC/50 Hz operation.

P/N SPC-6-1000-3PH

P/N SPC-6-1000-2PHC



Specifications

Input Voltage	115VAC ±15VAC
Input Frequency	50/60 Hz
Input Phase	Single
Input Protection	Protected from input over voltage (unit will shut itself off +135VAC) Protected from over current with 20 AMPS Circuit breaker. This circuit breaker is also used for the input power on-off
Output Voltage*	115/200VA; (100 to 125VAC L-N) adjustable 115/200VA; (173 to 216VAC L-L) adjustable 26/45VA; (22.6 to 28.2VAC L-N) adjustable 26/45VA; (39.1 to 48.8VAC L-L) adjustable
Output Power	115VAC—1000VA total (330VA/phase); 26VAC—225VA total (75VA/phase)
Output Frequency*	400 Hz (380 to 420 Hz) adjustable
Phase	3-phase
Wave	Sine
Amplitude Distortion	2% T.H.D. typical
Power Factor	.8 to -.95
Overload	Delivers 150% overload for @ least 5 min.; withstands short circuit for 1 min. minimum
Temperature	-40°C to +71°C
Weight	35 lbs.
Cooling	Internal fan thermostatically controlled
Protection	Unit will shut itself off under the following conditions: <ul style="list-style-type: none"> • Under frequency (< 375 Hz) • Over frequency (> 425 Hz) • Over voltage (> 130VAC)
Connections	Front panel mating connector—MS3106A24-11P rear panel 6-32 terminal block
Size	17" W x 13" D x 7" H for 19" relay rack mounting

PC-19-93 & PC-19 Static Inverter FAA PMA Windshield Heater

The PC-19-93 is a solid state DC to AC static inverter which transforms 28VDC primary electrical power to 93VAC up to 10.8 AMPS. Capable of delivering 1000 watts, this inverter is primarily designed to power windshield heaters for de-icing.

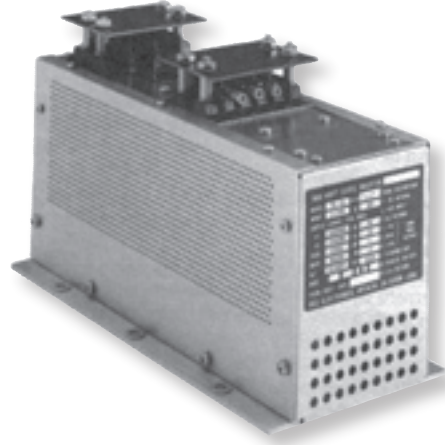
The PC-19-93 static inverter is FAA PMA recognized. The Model PC-19 static inverter is a 200VAC output version of the standard PC-19-93.

P/N PC-19-93

P/N PC-19

Features

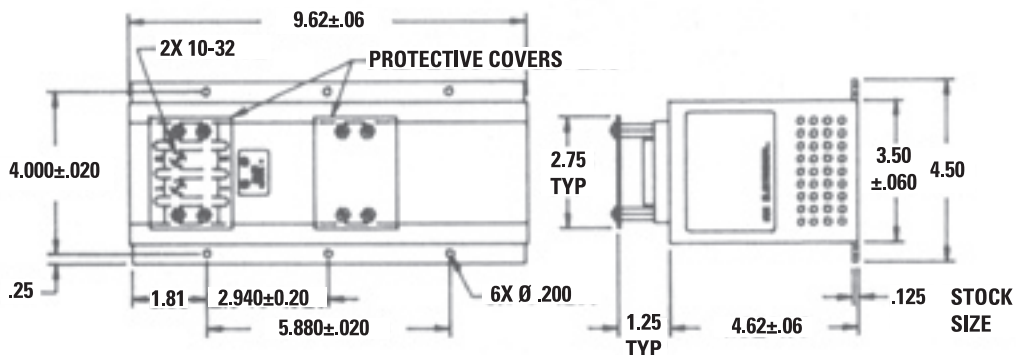
- Provision for remote on-off by opening or grounding a low current line
- Thermal cut off above 210°F in the event of prolonged overload causing excessive temperature (automatic reset)
- Output over current protection is provided to limit load current to 14 AMPS



Specifications

Input Voltage	27.5VDC \pm .25 @ inverter terminals; Withstand 35V for 1 min. 0 to 27.5V no condition will develop that will be detrimental to the unit
Output Voltage	#1 93V RMS \pm 5% with 6V tap
PC-19-93	#2 5.5V RMS \pm 5% an up to 1.0 AMPS
PC-19	#1 200V RMS \pm 5% with 6V tap #2 5.5V RMS \pm 5% up to 1.0 AMPS
Output Current	Up to 10.8 AMP to PC-19-93 Up to 5.0 AMP to PC-19
Output Power	1000 watts continuous
Overload	1300 watts for 1 min. &/or on an intermittent basis, provided the base plate temperature of 160°F is not exceeded
Protection	Overload & short circuit protection > 14.0 AMPS approx.
Frequency	1000 Hz \pm 200 Hz
Waveform	Square wave. Access to vary rise & decay time up to 50 mSec (uSec)
Efficiency	90% typical @ 50 uSec rise & decay time
Temperature	-65°F to + 160°F (sufficient air circulation of 25 CFM must be provided @ +160°F for continuous operation, unless the base plate temperature is < 160°F)
Humidity	> 95% for 10 days
Vibration	Meets RTCA paper DO-138 para 7.2.1 category H curve 2
Altitude	45,000'
Size	3.5" W x 9.6" L x 4.6" H (excluding the mounting flange: refer to the outline drawing)
Weight	10 lbs.

Outline Dimensions:

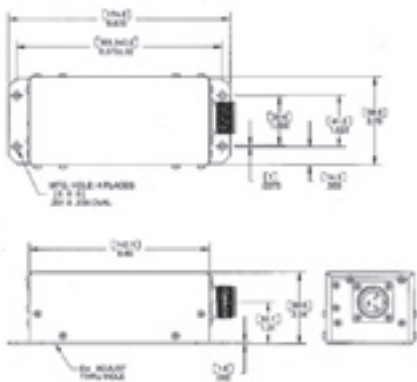


RG28 TSO'd Regulated DC-DC Power Converter

The KGS model RG28 converts 28VDC input voltage to a regulated 14VDC output voltage. The converter is capable of delivering 280 watts continuously at 14VDC (20 AMPS output). The 14VDC output is buck converted from the input voltage and therefore the output voltage is not isolated from the input.

A state of the art "Synchronous Current Mode Switching" topology with surface mount technology (SMT) is used to realize the power conversion. Control circuitry includes use of a popular synchronous PWM controller for voltage regulation and overload current limit. Protection circuitry includes output short circuit current limit. The output shuts down when the voltage feedback loop is opened.

P/N RG28



NOTE:
 1. The dimensions shown are ±.005" (±.00125") unless otherwise specified.
 2. The above dimensions do not include protrusion of the screw heads.

Figure 28: Outline and Mounting Dimensions

Specifications

Input Voltage	28VDC (nominal), 22 to 32VDC
Input Current	10.8 AMPS typical @ 28VDC input & @ FL 0.3 AMP maximum @ no load
Output Voltage	14VDC regulated
Output Current	0-20 AMPS continuous
Power Output	280 watts continuous; 420 watts for a minimum of 5 min.
Regulation	1% for line, 1% for load & 1% for temperature
Overload (OL)	Deliver 110% output power for 2 hrs. minimum
Protection (OL)	Withstands without damage or degradation loads exceeding 110% to an output short circuit Unit delivers rated output power upon removal of the overload condition
Protection (SC)	Under a output short circuit condition, the current is limited to approximately 37.5 AMPS
Efficiency	92% typical
Temperature	-55° C to +71° C
Cooling	Convection & thermal conduction through the bottom plate (no internal fan)
Altitude	55,000'
Compliance	FAA TSO-C71
Environmental	DO-160D/C by test, design similarity &/or design analysis per: F2-BBB[STX]EWXDFSABAZZLXXXX
Finish	Gold iridite per MIL-C-5541 Class 1A
Weight	1.2 lbs.
Size	2.75" W x 6.875" L x 2.24" H less protrusion of connector 69.9 mm W x 174.6 mm L x 56.9 mm H & screw heads

RG40 TSO'd Regulated DC to DC Power Converter

The RG40 is a solid-state, DC to DC switch-mode converter that converts an input DC voltage (27.5VDC (nominal)) to a regulated 13.75VDC output voltage.

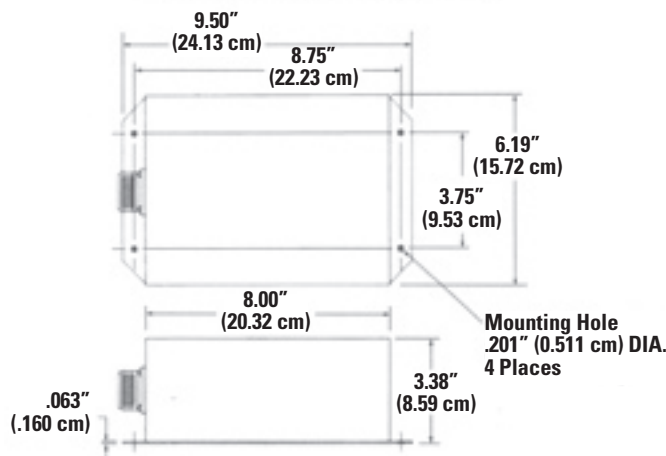
The RG40 meets the Federal Aviation Administration (FAA) technical standard order TSO-C71 (airborne static DC to DC electrical power converter for air carrier aircraft).

Two or more RG40's may be paralleled (external diodes required) if additional power is required.

P/N RG40



Outline Dimensions:



NOTE: Dimensions do not include external hardware.

Specifications

Input Voltage	22 to 41VDC (27.5VDC (nominal))
Input Current	18.1ADC @ full load (nominal)
Output Voltage	13.75VDC
Output Current	30.0ADC @ full load
Output Ripple	13.75 mV
Efficiency	80% minimum
Load Regulation	1% line, 1% load, 1% temperature
Load Transient Response	NL to FL condition: 4.0 Vp undershoot for 5.0 mSec (nominal) FL to NL condition: 2.0 Vp overshoot for 5.0 mSec (nominal)
Overload Capacity	110% of the rated output power for a period of 2 hrs.; 150% of the rated output power for a period of 5 min. (1 min. @ 70°C ambient temperature). Without damage or degradation, the converter will withstand a sustained short circuit & provide 200% of the rated output current for a period of 1 min.
Protection Circuit (Reverse Polarity)	The converter will trip a MIL-C-5809 25ADC input circuit breaker in the event of reverse polarity input voltage connection.
Protection Circuit: (Shutdown)	The converter will shutdown under the following conditions: <ul style="list-style-type: none"> • Input voltage > 41VDC (-3VDC hysteresis); input voltage < 15VDC (-2VDC hysteresis) • Output voltage > 16VDC (-2VDC hysteresis); internal temperature > 100°C
Temperature	-55°C to +71°C (-65°F to 160°F)
Altitude	55,000'
Size	9.50" L x 6.9" W x 3.38" H (mounting flange included)
Weight	3.5 lbs.
Environmental	DO-160 environmental catalogue F2XBB(LV)XXXXXXXXXXXX(ZA)XXX