

**SCE 950A SPECIFICATIONS
UNIVERSAL INPUT POWER SUPPLY**

DESCRIPTION: General purpose offline, adjustable DC power supply.
0-30V at 0-60A output.

MECHANICAL:

Size: 8.0" wide x 14.0" high x 14.0" deep
Weight: 34 lbs, less cables

I/O CONNECTORS:

Input: MS-3102R22-2P (3P male)
Output: 1) MS-3102R22-2S (3P female)
2) 1/4"-20 Brass Studs

INPUT SPECIFICATIONS:

Input voltage: 85-270VAC, 50-400hz or 120-380VDC
Input power, Max: 2150W (AC input)
Input power factor: 95 to 99% (60hz) (Power Factor Corrected)
Overall efficiency, 3/4 to full load: 85%
Input line protection: 20A panel controlled circuit breaker (also functions as on/off switch)
Input surge protection: TVS
Start up time: 2 second, max.

OUTPUT SPECIFICATIONS:

Output voltage range: 0 to 30VDC
Output current range: 0 to 60A
Power limitation: Limited to 1KW for line voltage less than 120VAC (factory option)
Output ripple: 225mV RMS
Output drift/10 hrs: Less than 50mV (.16% of 30V)
Line regulation: 85-270VAC, half load \pm 100mV
Temperature stability: $\Delta V < 50mV$ per 10°C from value at 25°C (.01% °C)
Load regulation: $\pm .25V$
Operational modes: Constant voltage (normal)
Constant current, settable from 5-60A

COOLING:

Forced air, 2 fans, variable speed, alternate operation
Thermal sensors: 2
Shutdown or indication only: Customer option
Fan replacement: In Field, without disturbing case seals
Strategically located air inlet/output ducts: nearly impossible to obstruct in normal usage
Fan MTBF: 20K hours (Mfr rating) If full cooling is not needed, fans operate alternately.

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ENVIRONMENTAL:

Operating temperature range:	-55°C to +72°C (ambient)
Storage temperature range:	-60°C to +90°C
Humidity:	To 100% (per MIL-STD 810F 507.4)
Rain/splash:	Per MIL-STD 810F 506.4 Procedure I & II
Water immersion:	To 10ft
Vibration:	MIL-STD 810F 514.5 Procedure I
Shock:	30G's/ 11millisec
Loose cargo:	Per MIL-STD 810F 514.5 Procedure I & II
Sand/dust:	Per MIL-STD 810F 504
Operating position:	Any

INDICATORS AND CONTROLS:

Output voltage indicator:	3 digit green LED display, accuracy $\pm 2\%$
Output current indicator:	3 digit green LED display, accuracy $\pm 2\%$
Status indicators:	3 multi-color LEDs
Temperature:	Normal-High-Hot
Input voltage:	Low-Marginal-OK
Power quality:	Constant Voltage, Constant Current, Out of Tolerance
Controls:	
Output voltage set:	Single turn.
Output current limit set:	Single turn. Ability to view and set current limit without entering current limit.
On/Off:	Input line circuit breaker
Lamp test/ Dim display/ Set current limit:	Spring return toggle switch

CONSTRUCTION:

Case:	0.125" formed aluminum sheet
Front Panel:	1/8" aircraft aluminum, recessed for control protection and foam gasket-sealed.
Portability:	Flat folding handle at CG for comfortable carrying,
Color:	Desert Tan (per FED-STD 595), other colors available

SAFETY:

Withstanding test voltages:	Line to case: 500V/500Megohm Line to output: 500V/500Megohm Output to case: 200V/200Megohm
Exposed high voltages:	None during operation
Internal	
Buss bleed-down:	10sec, LED indicator
Agency approvals:	None, None sought

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RELIABILITY:

Parts derating: Per NAVMAT P-4855
Calculated reliability: 50K hours, ground benign (per MIL-HANDBOOK 317)
MFR's Quality system: ISO 9000/MIL-STD 45208

MAINTAINABILITY:

General: Designed for 30 yr maintainability
Parts selected: All mainstream, dual sourced
Component parts lead time: Normally 6-8 wks or less
Scheduled maintenance: Fan pack at 7000 hours
Verify meter calibration: 12 months

REPAIRABILITY:

General: 5 modules designed for field replacement (25 minute MTTR) with screwdriver, captive hardware
Documentation: Complete
Factory module exchange: yes
Calibration frequency: 1 year, meter display

INTERNAL TOPOLOGY:

Main converter: Boost power factor correction module which is closely coupled to Phase Shifted, zero voltage switching converter.
Switching frequency: 125Khz, Nominal
Control: Three embedded microprocessors for user interface, current limiting, startup, shutdown and status.
Calibration: Periodic calibration. Calibration Data and operating firmware upgrades can be uploaded to power supply without opening unit.
EMI: MIL-STD 461E CE02, RE102 and RS103, Ground NAVY

PRE-DELIVERY TESTING:

Burn-in: 24 hours, ¾ load
ESS: Simultaneous 3-Axis random vibration, 6.3 RMS, 15 minutes
3 temperature cycles -30°C to 55°C
Full room temperature test
High temperature test: 55°C
Low temperature test: -30°C

Warranty:

1 year/TBD
Place of manufacture: Azle, Texas, USA
Availability: Depends on options, call factory