

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

DESCRIPTION:	General purpose offline, adjustable DC power supply. 1-30V 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:	MS-3102R22-2S (3P female)
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, ¾ to full load:	85%
Input line protection:	20A panel controlled circuit breaker (also function 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 ---:	Less than 50mV (.16% of 30V)
Line regulation:	85-270VAC, half load \pm 100mV
Temperature stability:	$\Delta V < 50mV$ per 30 $^{\circ}C$ from value at 25 $^{\circ}C$ (.01% 8C)
Load regulation:	$\pm .25V$
Operational modes:	Constant voltage (normal) Constant current, settable from 10-60A
COOLING:	Forced air, 2 fans
Thermal sensors:	2
Shutdown or indication only:	Customer option
Fan replacement:	In Field, without disturbing case seal
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.
ENVIRONMENTAL:	
Operating temperature range:	-55 $^{\circ}C$ to +55 $^{\circ}C$ (ambient)
Storage temperature range:	-60 $^{\circ}C$ to +71 $^{\circ}C$

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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 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 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 break	
Buss bleed-down:	10sec, LED indicator
Agency approvals:	None, None sought

RELIABILITY:

Parts derating:	Per NAVMAT P-4855
Calculated reliability:	50K hours, ground benign (per MIL-HANDBOOK 317)

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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 RANDR) 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 Shift, zero voltage switching converter.
Switching frequency: 125Khz, Nominal
Control: Three embedded microprocessors control user interface, current limiting, startup, shutdown and status.
Calibration: Periodic 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 -308C to 558C
Full room temperature test
High temperature test: 558C
Low temperature test: -308C

Warranty:

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