62.5kVA
350-1,000 Hz

Direct Coupled Output (3Ø): 0-120$_{L-N}$ / 0-208V$_{L-L}$

Transformer Coupled Output (3Ø):		
Ratio 2.0:1	0-240$_{L-N}$	/ 0-416V$_{L-L}$
Ratio 2.5:1	0-270$_{L-N}$	/ 0-467V$_{L-L}$
Ratio 3.0:1	0-360$_{L-N}$	/ 0-624V$_{L-L}$

System Summary:

- Power: 50–500kW
  62.5–312 kVA
- Four output voltage ranges
- Current: Paralleled Systems to 875 A/Phase
- Frequency Range: 350–1000 Hz
- UPC Manager Software Suite

System Features:

- Optional Avionics Test Libraries for Airbus ABD0100.1.8(A380), ABD0100.1.8.1(A350), RTCA/DO160 and MIL-STD704
- Highly flexible and expandable power architecture with unique Master/Slave configuration up to 312 kVA
- 62.5 kVA / 50 kW per Cabinet
- Very high current capability
- Low Voltage Distortion <2%

Included with Standard Delivery:

- AC Power Source
- SCU-UPC32 Remote Controller with 30 m cable
- English manuals (AC Source and Controller)
- UPC Studio Software
- CE Conformity Document

The **Model 3060-MSA** is a fully featured AC Test Power System consisting of one to five 50 kW/62.5 kVA, 3 phase AC Power Sources and one remote SCU/UPC-32 Programmable Controller. This configuration offers almost any combination of waveform, voltage, and/or frequency variation. Using both software and hardware features, the operator may generate line harmonics, frequency shifts, voltage transients and other power bus disturbances required by most avionics test applications.

Rugged, Powerful Output

- Field proven reliability ensures high system availability and up-time under virtually all load conditions.
- Excellent Regulation and response time eliminates load "cross talk." Voltage sags common to other conversion methods are eliminated with 150 microsecond response time to a 50% load step. The output recovers to ± 3% of nominal within less than 1/10th of a cycle at 400 Hz.

Maximum System Flexibility and Reliability

Capable of operating as either the master or slave in a multi-cabinet parallel system. Easy to reconfigure to meet changing test needs.

The parallel system architecture ensures reliability; a failed slave unit automatically removes itself from the power grid. Should the master unit fail, the operator can select any other paralleled unit as the new master from the front panel and restore system operation.

PACIFIC ®
POWER SOURCE
THE POWER OF EXPERTISE

AC Output Specifications

POWER	62.5kVA/50kW for each 3060-MSA

VOLTAGE (Nominal)	Direct Coupled: 0-120/208 V, 3-phase
	Transformer Coupled: Ratio 2.0:1: 0-240/416 V
	                                  Ratio 2.5:1: 0-270/467 V
	                                  Ratio 3.0:1: 0-360/624 V

CURRENT RMS	175 A_{RMS}/Phase continuous Pf < 0.8=175A_{RMS}/Phase Pf 1.0=140A_{RMS}/Phase
OVERLOAD (KW)	110% for 1 hour, 125% for 10 minutes, 150% for 10 seconds
FREQUENCY	Variable between 350 and 1000 Hz via SCU/UPC-32
VOLTAGE THD	< 2% over the full frequency range (ALCC mode ON)
LOAD REGULATION	±1% with Automatic Level Control & Compensation (ALCC) enabled
LINE REGULATION	±1% maximum for ±10% line voltage change
LOAD TRANSIENT RESPONSE AND RECOVERY TIME	150 microseconds for 50% load step and 300 microseconds for 100% load step with ALCC mode OFF. With ALCC mode on, transient load response is < 50 msec.
LOAD POWER FACTOR	See Voltage / Current Rating Chart
LOAD BALANCE RESTRICTION	None. Each phase is independently regulated
VOLTAGE SENSE	Local or Remote Selectable Remote sense requires ALCC mode ON. Maximum remote load connection voltage drop 5% of Vrange.
ISOLATION	Input is fully isolated from output and frame ground
PROTECTION	Integral electronic current limiting with auto recovery.

Measurements (with SCU-UPC32)

VOLTAGE (True RMS)	Range	0-440 VAC_{L-N}, 0-762 VAC_{L-L}
	Resolution	0.1 VAC to front panel. 0.001 VAC to remote interface.
	Accuracy	±0.2% of range +cal.ref.
CURRENT (True RMS)	Range	4,000Apk
	Resolution	0.01A to front panel. 0.001A to remote interface.
	Accuracy	±0.2% of range +cal.ref.
POWER	Measures True Power (kW), Apparent Power (kVA) Power Factor and Crest Factor.	
	Range	Based on Volt and Amp metering ranges
	Resolution	1.0 Watt
POWER/CREST FACTOR	Calculated and displayed to three significant digits.	

Protection and Safety

	AC Power Source is protected against Overcurrent, Short Circuit, and Overtemperature.

Parameter Settings (with SCU-UPC32)

FREQUENCY	Range	350 to 1,000 Hz.
	Resolution	4 significant digits, e.g. 400.0
	Accuracy	±0.01%, 350 to 1,000 Hz.
VOLTAGE	Range	0 to VMAX
	Resolution	0.1 VAC steps.
	Accuracy	±0.2% of range +cal.ref.
CURRENT LIMIT	Range	0 to I_{RMS} max
	Resolution	±0.05%
	Accuracy	±3%, FS
PROGRAMMABLE OUTPUT IMPEDANCE	Dynamic output impedance (Zo) is programmable, ± Zo, MAX in 0.1% steps. Zo value in milliohms and typically results in a ±10% change in output voltage at maximum rated load current.	

Input Power Requirements

INPUT VOLTAGE	208 VACΔ ±10%	240 VACΔ ±10%	380 VACΔ ±10%	400 VACΔ ±10%	416 VACΔ ±10%	480 VACΔ ±10%
RECOMMENDED SERVICE CURRENT	175 A_{RMS}	175 A_{RMS}	100 A_{RMS}	100 A_{RMS}	100 A_{RMS}	75 A_{RMS}
INPUT FREQUENCY	47–63 Hz					
POWER FACTOR	0.85 lagging typical					
PROTECTION	Input CB Standard. Slow Turn-On Circuit is provided to limit inrush current					

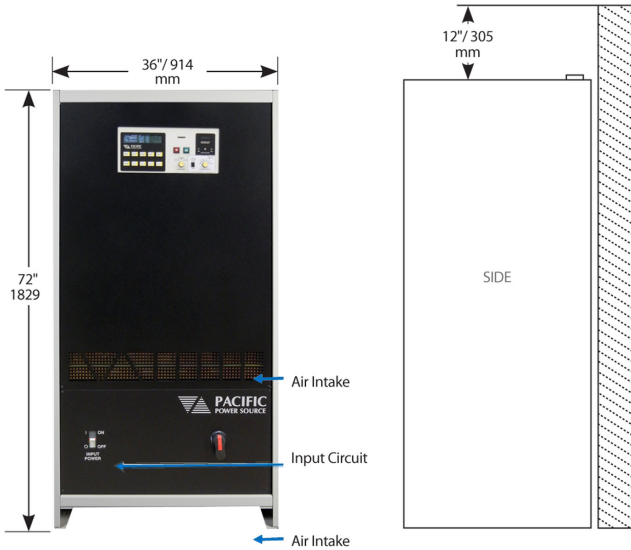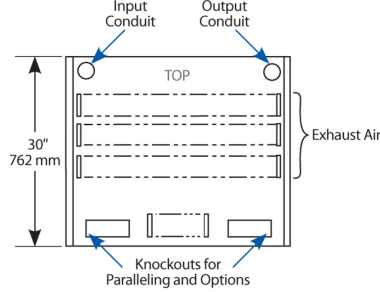## Remote Interface and Software

GPIB (standard)	GPIB Interface, SCPI Commands & IEEE488.2
UPC MANAGER	Complete Software Package free of charge
DRIVERS	LabView™ and LabWindows™ drivers available

Options

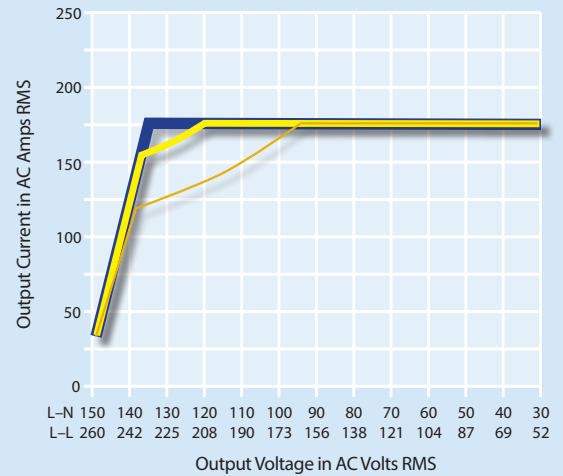|	
/S	RS232 Interface. SCPI Commands, Baudrate up to 38.4 kBps. (Replaces GPIB, no cost option)
UPC-Test Manager	License for Software UPC-Test Manager Required for Avionics test options listed below:
ABD0100	License for Avionics Test Sequences according to norm ABD0100.8.1. Requires UPC-Test Manager Option.
A350	License for Avionics Test Sequences according to norm Airbus A350. Requires UPC-Test Manager Option.
DO160	License for Avionics Test Sequences according to norm DO160 Version E - Requires UPC-Test Manager Option.

General Specifications

OPERATING TEMP.	Operating: 0º to +40ºC (32º to 104ºF) – Storage: -10º to +70ºC (+14º to +158ºF)
RELATIVE HUMIDITY	0 to 95% non-condensing
NOISE LEVEL	65 dbA at 3 feet
EFFICIENCY	85 % typical at full load
COOLING/ VENTILATION	Self-Contained fans; bottom intake, top exhaust, 1200 CFM.
HEAT DISSIPATION AT FULL LOAD	20 kBTU/HR (6 kW/HR)
SERVICE ACCESS	Unit is designed for front access. Power Cabling is routed through either top or bottom knock-outs.
CERTIFICATION	CE, ETL

Input Conduit Output Conduit

TOP

Exhaust Air

30" 762 mm

Knockouts for Paralleling and Options

36"/ 914 mm

72" 1829

12"/ 305 mm

SIDE

Air Intake

Input Circuit

Air Intake

Mechanical Specifications

HEIGHT	72" / 1829 mm
WIDTH	36" / 914 mm
DEPTH	30" / 762 mm
WEIGHT	1900 lbs. / 862 kg
INSTALLATION CLEARANCE	36" at front of cabinet for service, 12" top, 0" side and rear

Output Rating Curve Vs. Power Factor (Single Cabinet)

Output Current in AC Amps RMS

| L–N | 150 | 140 | 130 | 120 | 110 | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 |
| L–L | 260 | 242 | 225 | 208 | 190 | 173 | 156 | 138 | 121 | 104 | 87 | 69 | 52 |

Output Voltage in AC Volts RMS

0.00 Pf   0.70 Pf   1.00 Pf

Rated continuous load current as a function of Power Factor and Output Voltage–Nominal Input Line.

Short-term overloads to 247 A_{RMS} are permitted. Operating time before thermal shutdown or circuit breaker trip varies from seconds to several minutes depending upon line and temperature conditions.

Rated output power is based on a combination of output voltage, current and load power factor. Values stated represent the maximum capabilities of a given model.

Consult factory for assistance in determining specific unit capabilities as they might apply to your application.

## High Power Programmable AC Test System/Line Disturbance Simulator

With the Pacific Power Source SCU-UPC32 Programmable Controller option, your 3060-MSA becomes a fully featured AC Test Power System. When controlled by the SCU-UPC32 Programmable Controller, the AC Power Source will offer almost any combination of waveform, voltage, and/or frequency variation demanded by most avionics AC power compliance tests.

UPC Manager Software Suite
Master the Power of the Wave!

UPC Manager Software gives you the tools necessary to quickly and easily operate your AC Power Source. With our complete, graphical interface, control all areas of your AC Power Source testing with simple presets, user prompts, test sequences, test plans and custom reports.
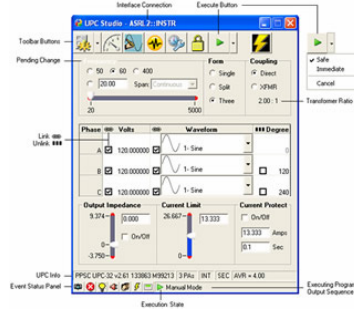
UPC Features
• Simple and Comprehensive programming

• Execute and Monitor the output values using the internal power analyser

• Create arbitrary waveforms, import waveforms captured on external instruments, freehand draw, enter harmonic and phase angle content, create ringwaves, random noise, clipping and other custom waveshapes.

SCU-UPC32 Programmable Controller

The UPC controller is a 3-Phase AC arbitrary waveform generator and precision AC metering system. Each waveform stored in the UPC is encoded with 12-bit amplitude and 10-bit time resolution for each cycle. The waveform for each phase may be independently selected and varied in amplitude and phase angle with respect to phase A. The UPC output metering samples the output volts and amps at 512 samples per measurement using a 12-bit A/D converter. This technique provides exceptional metering accuracy and resolution (20 bits), and delivers a high-fidelity waveform back to a host computer for analysis. The UPC includes a remote GPIB interface compatible with IEEE488.2 and SCPI.

The Leader in AC Power Technology

As a privately held, leading manufacturer of high-quality AC Power Conversion Equipment, Pacific Power Source, Inc. offers standard catalog products that range in power from 500 VA to >625 kVA. Low-power products include frequency converters and Programmable AC Power Sources. High-power systems include programmable power test equipment, frequency converters and uninterruptible AC Power Sources.

Founded in 1971, the Irvine, California, company was an early pioneer in the development of linear solid-state power conversion for use in high-reliability applications. The company now manufactures both advanced linear and broadband switching types of AC Power Sources.

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