

750VA  
20-5,000 Hz

- 1Ø → 0-338V<sub>L-N</sub>
- 2Ø → 0-600V<sub>L-L</sub>
- 3Ø → 0-338V<sub>L-N</sub> / 585V<sub>L-L</sub>



## Standard Features:

- Advanced Linear Amplifiers Provide Very Low Voltage Distortion, no Switching Noise, Fast Voltage and Current Slew Rates, Exceptionally Low Output Impedance and High Peak Current Capability
- 1, 2, or 3 Phase Output Form selectable from front panel or bus command
- 20 to 5,000 Hz. Full Power Bandwidth Operation – 5Hz to 50KHz small signal bandwidth, 3dB at 10% of full voltage
- Precision Voltage Programming – 0.05% with Continuous Self-Calibration (CSC) engaged
- True-RMS Metering of Volts, Amps, and Power
- GPIB (IEEE-488.2) or RS-232 Interface
- Waveform Library – Arbitrary Waveform Generator
- Up to 99 Programs with Associated Transients for Static and Dynamic Test Applications
- UPC Studio Software Suite

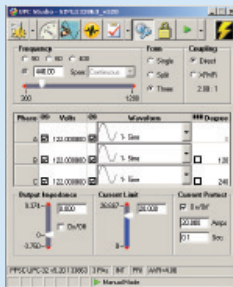
## Available Options:

- T-versions include internal transformer assembly for higher voltage ranges
- Programmable Output Impedance
- Harmonic Analysis and Waveform Synthesis
- Peak Inrush Capture and Waveform Analysis (Available on models with UPC3 controller)
- UPC Test Manager Software

## 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 graphical interface control all areas of your AC Power Source testing with simple presets, user prompts, test sequences, test plans and custom reports.



## Model 308AMX

As a member of Pacific Power's AMX-Series popular family of high performance Linear AC Power Sources, the 308AMX offers the same low output voltage noise and distortion, ease of installation, and high AC waveform fidelity as found in all of Pacific Power's Linear AC Power Sources. Control and operational features provide a high degree of versatility and ease of use for applications ranging from simple, manually controlled frequency conversion to harmonic testing and sophisticated programmable transient simulation.

### AC TEST POWER

All 308AMX and 308AMXT models are equipped with a powerful micro-controller with the ability to operate as a fully integrated test system. This enables a variety of power conditions and transients to be applied to the device under test while metering and analyzing all output performance parameters. For higher power requirements, refer to the AMX & ASX series catalog.

### FREQUENCY/VOLTAGE CONVERSION

The 308AMX is an excellent source of stable AC Voltage over the frequency range of 20 to 5,000 Hz (Direct Coupled Range) or 45 to 5,000 Hz (Transformer Coupled AMXT models) when using the high-end UPC-32 controller. Also available in 1,200 Hz maximum output frequency when using UPC3 or Manual controller. The output frequency is quartz-crystal stabilized. Output voltages up to 270V<sub>L-L</sub> in split phase mode and 234V<sub>L-L</sub> in three phase mode are available on the 308AMX model and up to 600V<sub>L-L</sub> in three phase mode on the 308AMXT model.

### PHASE CONVERSION

With the ability to provide either single or two phase output, the 308AMX is a good choice to convert one-phase line voltage into precisely controlled split (two-phase) or three-phase output power.

## UPC SERIES CONTROLLER

Three controller models are available in both manual and programmable control version. All controllers provide manual operation from the front panel. Programmable Controllers may be operated from the front panel or from a remote interface via RS 232 or GPIB.

## The Leader in AC Power Technology

An early pioneer in the development solid-state power conversion equipment, Pacific Power Source continues to develop, manufacture, and market both linear and high-performance PWM AC Power Sources. Pacific Power Source's reputation as a market and technology leader is best demonstrated by its continuing investments in both research and development and world-wide customer support. With corporate owned offices in the United States, Germany, the United Kingdom, and China, local personalized support is always available.



FREQUENCY CONVERSION



AEROSPACE



R & D



MILITARY



MANUFACTURING



CUSTOM

## Output Ratings

### 308AMX

| Rated Power (VA) <sup>1</sup> | Coupling Mode | Form <sup>2</sup> | Output Voltage <sup>3</sup><br>V <sub>RMS</sub> Max<br>(L-N/L-L) | Current <sup>4</sup><br>(A <sub>RMS</sub> ) | Frequency Range | Input Power   | Unit Height<br>In/mm/U | Unit Weight<br>(Lbs/Kg) |
|-------------------------------|---------------|-------------------|--|---|-----------------|---------------|------------------------|-------------------------|
| 750                           | Direct        | 1Ø/2Ø<br>3Ø       | 135/270<br>135/234   | 6/2<br>2/Ø                                  | 20-5000         | 1Ø<br>47-63Hz | 5.25/133/3U            | 60/27                   |

### 308AMXT

| Rated Power (VA) <sup>1</sup> | Coupling Mode     | Form <sup>2</sup> | Output Voltage <sup>3</sup><br>V <sub>RMS</sub> Max<br>(L-N/L-L) | Current <sup>4</sup><br>(A <sub>RMS</sub> ) | Frequency Range | Input Power   | Unit Height<br>In/mm/U | Unit Weight<br>(Lbs/Kg) |
|-------------------------------|-------------------|-------------------|--|---|-----------------|---------------|------------------------|-------------------------|
| 750                           | Direct            | 1Ø/2Ø<br>3Ø       | 135/270<br>135/234   | 6/2<br>2/Ø                                  | 20-5000         | 1Ø<br>47-63Hz | 5.25/133/3U            | 75/34                   |
|                               | Transformer 1.5:1 | 1Ø/2Ø<br>3Ø       | 202/404<br>202/350   | 4/1.3<br>1.3/Ø                              | 45-5000         |               |                        |                         |
|                               | Transformer 2.0:1 | 1Ø/2Ø<br>3Ø       | 270/540<br>270/468   | 3/1<br>1/Ø                                  | 45-5000         |               |                        |                         |
|                               | Transformer 2.5:1 | 1Ø/2Ø<br>3Ø       | 338/600<br>338/585   | 2.4/0.8<br>0.8/Ø                            | 45-5000         |               |                        |                         |

- NOTES:
- Rated output power is based on a combination of nominal output voltage, rated current and load power factor. Values stated represent the maximum capabilities of a given model (maximum power in split phase (Form2) direct coupled mode is 500VA). Consult factory for assistance in determining specific unit capabilities as they might apply to your application.
  - Unit is operable as single phase with dual range capability or 3 phase. Output voltage range and 1/2/3 conversions are selected by front panel or bus commands.
  - Vmax is output voltage with nominal input and full rated load applied.
  - Available current will vary with output voltage and power factor. Current shown is per phase.

## AMX Power Source Specifications (PF = 1.0, V<sub>out</sub> > 25% F.S.)

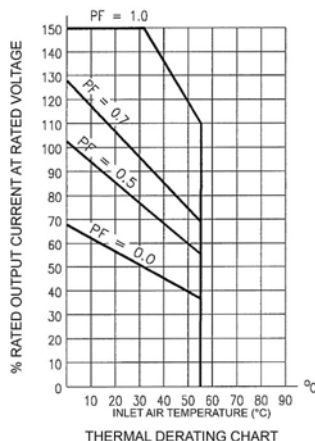
| Output Frequency  | Line Regulation                       | Load Regulation  | Output Distortion   | Ripple and Noise | Response Time   |
|---|---------------------------------------|--|---|------------------|---|
| Full Power<br>20-5,000 Hz Direct Coupled<br>45-5,000 Hz Transformer Coupled | 0.1% max for a<br>±10% line<br>change | Direct Coupled Ranges:<br>0.25% 20 to 2,000 Hz.<br>0.50% 2,000 to 5,000 Hz.<br><br>Improves to less than 0.03% with external sense and CSC enabled.<br><br>Transformer Coupled Ranges:<br>1.5:1 2%<br>2.0:1 4%<br>2.5:1 5%<br><br>Improve to < 0.1% with external sense and CSC enabled. | 0.1% THD <sub>AVG</sub> 45 to 1,000 Hz<br>0.25% THD <sub>AVG</sub> 20 to 5,000 Hz | -72dB            | 5 µsec typ. For<br>step load change.<br>Small signal<br>bandwidth = 5 Hz<br>to 40 KHz |

## Input Power Requirements (47-63 Hz)

|                              |                    |                    |                    |                                 |                   |
|------------------------------|--------------------|--------------------|--------------------|---------------------------------|-------------------|
| Input Voltage                | 100VAC<br>±10%     | 110VAC<br>±10%     | 120VAC<br>±10%     | 200, 208, 220 or 230VAC<br>±10% | 240VAC<br>±10%    |
| Input Current                | 17A <sub>RMS</sub> | 16A <sub>RMS</sub> | 15A <sub>RMS</sub> | 8A <sub>RMS</sub>               | 7A <sub>RMS</sub> |
| Recommended<br>Input service | 25A                | 25A                | 25A                | 25A                             | 15A               |

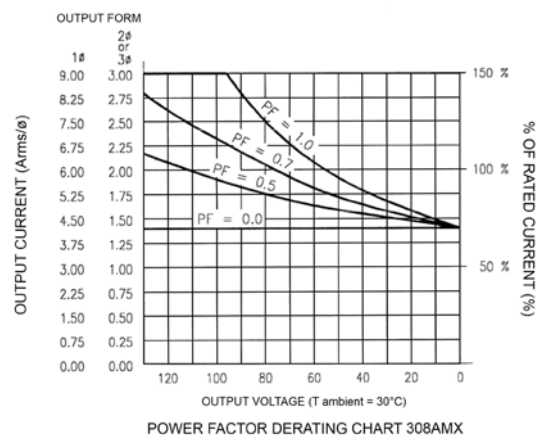
## Thermal and Power Factor Rating Curves

Rated Continuous Load Current as a Function of Ambient Temperature and Power Factor and Output Voltage at Nominal Input Line.



### THERMAL RATING -AC CURRENT RMS

Short term overloads to 150% of rated current are permitted. Operating time before thermal shutdown or circuit breaker trip varies from seconds to several minutes depending upon line and temperature conditions.



### OUTPUT VOLTAGE-AC VOLTS RMS

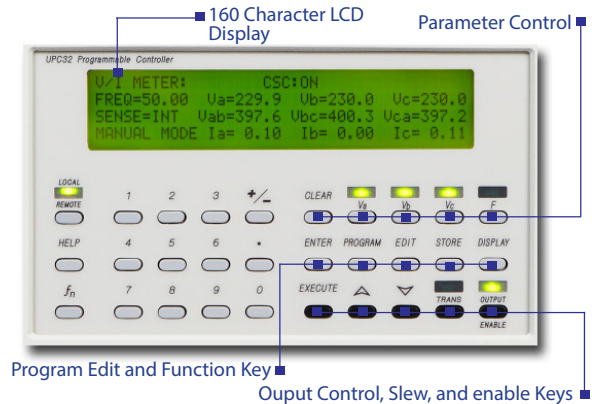
Short term overloads to 150% are permitted. Operating time before thermal shutdown or circuit breaker trip varies from seconds to several minutes depending upon line and temperature conditions.

## Total Control, Metering, and Analysis of AC Power- Simple, Intuitive Operation

The UPC Controller is a highly versatile one, two, or three phase oscillator/signal generator designed to control any of Pacific Power's AC Power Sources. Three controller models, UPC-3M, UPC-3, or UPC-32 are offered. To use the full 5KHz power bandwidth of the 308AMX or 308AMXT, the UPC-32 controller is required.

Using the front panel keyboard and display, all controller models provide for selection of power source output mode, coupling, voltage, and frequency. Selecting the correct UPC controller for a given application varies with your test requirement, desired features, and price.

Both the UPC-3 and UPC-32 Controllers are available with either RS-232 or GPIB remote interface. Commands are structured in accordance with SCPI (Standard Commands for Programmable Instruments).



### Controller Models

| Features                          | UPC-3M       | UPC-3              | UPC-32             |
|-----------------------------------|--------------|--------------------|--------------------|
| Output Modes                      | 1Ø, 2Ø, & 3Ø | 1Ø, 2Ø, & 3Ø       | 1Ø, 2Ø, & 3Ø       |
| Waveform Library                  | Sine         | Sine + 21 Editable | Sine + 15 Editable |
| Transient Functions               | NO           | YES, 50 Steps      | YES, 99 Steps      |
| Program Library                   | NO           | 99 Programs        | 99 Programs        |
| Programmable Current Limit        | YES          | YES                | YES                |
| Programmable Current Protect      | YES          | YES                | YES                |
| Programmable Phase Angle          | NO           | YES, 0 to 359°     | YES, 0 to 359°     |
| CSC (Continuous Self-Calibration) | YES          | YES                | YES                |
| Remote Interface                  | Std          | NONE               | GPIB               |
|                                   | Opt          | NONE               | RS-232             |
| Waveform Synthesis/Analysis       | NO           | OPTIONAL           | OPTIONAL           |
| Prog. Output Impedance            | NO           | OPTIONAL           | OPTIONAL           |
| Inrush Peak Detect                | NO           | OPTIONAL           | NO                 |
| DRM Link-Synchronization          | NO           | NO                 | OPTIONAL           |
| Line Synchronization              | NO           | NO                 | OPTIONAL           |

### Output Control Specifications

|   | UPC-3M/UPC-3 | UPC-32   |
|---|--------------|--|
| Frequency                               | Range        | 20-1,200Hz   |
|   | Resolution   | 4 Significant Digits   |
|   | Accuracy     | ±0.01% of full scale   |
| Voltage                                 | Range (I-n)  | 0 - 150/375  |
|   | Resolution   | 0.1V/ 0.5V   |
|   | Accuracy     | 0.5% of full scale (CSC Disabled)<br>±0.05% referenced to Internal Meter (CSC Enabled)         |
| Phase Angle<br>ØB and ØC relative to ØA | Range        | 0 - 359°   |
|   | Resolution   | ± 1°   |
|   | Accuracy     | 15.00 - 150Hz, ± 0.5°<br>15.00 - 300 Hz, ± 1°<br>15.00 - 600 Hz, ± 2°<br>15.00 - 1,200Hz, ± 3° |
| Current Limit                           | Range        | 1Ø = 0 - 60A <sub>RMS</sub> 3Ø = 0 - 20A <sub>RMS</sub>  |
|   | Resolution   | 0.05% F.S.   |
|   | Accuracy     | ±3% F.S.      ±1% F.S.   |

(1) Full power output limited to 1=5,000 Hz in AMX models

### External Inputs/Outputs

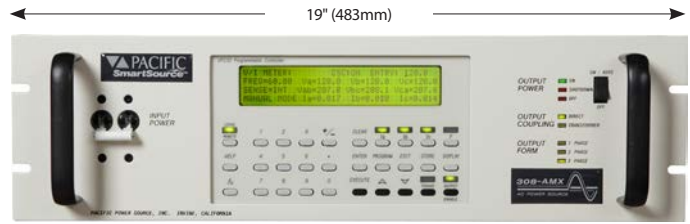
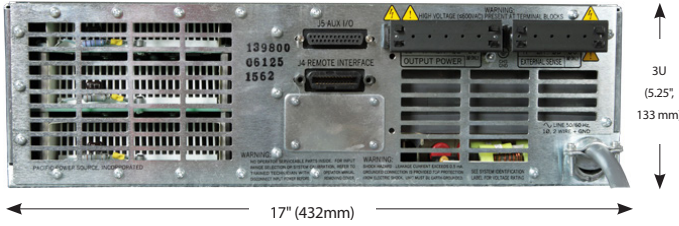
|                            |  |
|----------------------------|--|
| Analog Auxiliary Input     | Each phase is algebraically summed with UPC waveform and amplified 25X to the direct coupled output. ±10Vpk (20Vpk-pk). One input per phase. Z <sub>IN</sub> = 600 Ω |
| AM-Amplitude Modulation    | ±10 Vdc (20Vpk-pk) modulates the output voltage ±100%<br>One input per phase. Z <sub>IN</sub> = 600 Ω  |
| Sync Outputs Zero Crossing | Positive Zero Crossing (0°) of Phase A analog output   |
| Transient Trigger          | Pulse at the start of a transient event. (UPC-32 only)   |
| Transient Pedestal         | TTL True when a transient is in progress   |
| Output Clock               | UPC-3, TTL level pulse rate varies with output frequency<br>UPC-32, TTL level 1024 x output frequency  |

### Waveform Control

|                                  |   |
|----------------------------------|---|
| Waveform Synthesis (/HAS Option) | Creates waveform by entering magnitude as % of fundamental and specified phase angle for 2nd through the 51st harmonic  |
| Waveform Analysis (/HAS Option)  | Reports waveform harmonic content and phase angle relative to the fundamental for the 2nd through the 51st harmonic as Total, Odd, and Even harmonic distortion |

### Output Metering

|  | UPC-3M/UPC-3 | UPC-32  |
|--|--------------|---|
| Voltmeter<br>True V <sub>RMS</sub> each phase                | Range        | 0-354 V <sub>L-N</sub> , 708V <sub>L-L</sub>  |
|  | Resolution   | 0.1V front panel  |
|  | Accuracy     | ±0.2% FS plus Cal ref.      50-500Hz, ± 0.25% of rdg. ± 0.1% F.S.<br>20-5,000 Hz, ± 0.5% F.S. |
| Ammeter<br>True A <sub>RMS</sub> and Apk each phase          | Range        | 1Ø = 60A <sub>RMS</sub> , 3Ø = 20A <sub>RMS</sub>   |
|  | Resolution   | 0.01A front panel   |
|  | Accuracy     | ±0.2% FS plus Cal ref.      ±0.25% of rdg. 50-500Hz, ± 0.1% F.S.<br>20-5,000 Hz, ± 0.5% F.S.  |
| Power Meter<br>True Watts and Volt-Amps each phase           | Range        | 1Ø = 21,240/Ø (W or VA), 3Ø = 7,080/Ø (W or VA)   |
|  | Resolution   | 1.0 Watt or VA front panel  |
|  | Accuracy     | ± 1% full range   |
| Power Factor<br>Ratio: kW <sub>mtr</sub> /kVA <sub>mtr</sub> | Resolution   | Calculated and displayed to three digits following the decimal point.                         |
|  | Accuracy     | ± 1% full range   |
| Crest Factor<br>Ratio: Apk/A <sub>RMS</sub>                  | Resolution   | Calculated and displayed to three digits following the decimal point.                         |
|  | Accuracy     | ± 1% full range   |
| Freq. Display  | Range        | 15.00 - 1,200 Hz      20.00-5,000Hz   |
|  | Resolution   | 10.00-99.99 Hz, 0.01 Hz<br>100.0-999.9 Hz, 0.1 Hz<br>1,000-5,000 Hz, 1 Hz                     |
|  | Accuracy     | ± 0.01% full range  |



### General/Environmental

|                  |   |
|------------------|---|
| Temperature      | Operating: 0° to 55° C<br>Storage: -10° to 70° C              |
| Humidity         | 0 - 95%, Non-condensing                                       |
| Cooling          | Front and side forced air intake (100 CFM) with rear exhaust. |
| Altitude         | Operating: 6,500 Ft (1,981m)<br>Storage: 40,000 Ft (12,192 m) |
| Heat Dissipation | 800BTU/ hr (Full kW Load)                                     |
| Audible Noise    | 65 dba Max @ 1 Meter  |
| Agency Approvals | Safety UL 61010 -1<br>EN 61010 -1<br>EMC EN 61326 -1          |

### Mechanical Specifications

|          |   |
|----------|---|
| Height   | 308AMX: 3U (5.25", 133mm)   |
| Depth    | 308AMX: 23" (584mm)<br>(Approx. from front panel to the rear of chassis.) |
| Weight   | 308AMX: 60 lbs (27kg)<br>308AMXT: 75 lbs (34kg)                           |
| Mounting | Standard 19" rack (483mm). Cabinet options available.                     |

### Hardware Options

|         |  |
|---------|--|
| /S      | RS232 Interface. 38.4kbps, (Standard on UPC-3)   |
| /G      | GPIB Interface, IEEE-488.2. (Standard on UPC-32) |
| /M7073  | Safety Interlock Normally Open Contacts          |
| /M99413 | Safety Interlock Normally Closed Contacts        |
| /MXXXXX | Other factory specified modification             |

### Protection and Safety

|                              |  |
|------------------------------|--|
| Hardware                     | Over-current, short circuit, over- temperature   |
| Programmable Current Limit   | A single RMS programmed, average responding, value is provided for all phases. Limits current by reducing output voltage.            |
| Programmable Current Protect | Allows the power source to operate in "constant voltage" mode, interrupting output when specified current protect limit is exceeded. |

### Software/Firmware Options

|          |   |
|----------|---|
| /Prog-Z  | Programmable Output Impedance (not available with UPCxM)  |
| /HAS     | Harmonic Analysis and Synthesis (not available with UPCxM)  |
| /IR      | In-Rush Meter. Capture and view peak in-rush current values via front panel or remote interface (UPC-3 only).               |
| Test MGR | UPC Test Manager License: Create, edit, and execute Test sequences and reports. Ordered as separate line item               |
| Test SEQ | Avionics test sequences; DO-160, ABD-0100, ABD-0100 (A350), Ordered as separate line item, Requires 'Test' Manager License. |

### Ordering Information

| Model                            | Controller                      | Options        | T-Ratio (308AMXT Only)               | Input Voltage (V <sub>IN</sub> )      |
|----------------------------------|---------------------------------|----------------|--------------------------------------|---------------------------------------|
| <input type="checkbox"/> 308AMX  | <input type="checkbox"/> UPC-3M | See List Above | <input type="checkbox"/> Ratio 1.5:1 | <input type="checkbox"/> 100VAC ± 10% |
| <input type="checkbox"/> 308AMXT | <input type="checkbox"/> UPC-3  |                | <input type="checkbox"/> Ratio 2.0:1 | <input type="checkbox"/> 110VAC ± 10% |
|                                  | <input type="checkbox"/> UPC-32 |                | <input type="checkbox"/> Ratio 2.5:1 | <input type="checkbox"/> 120VAC ± 10% |
|                                  |                                 |                |                                      | <input type="checkbox"/> 200VAC ± 10% |
|                                  |                                 |                |                                      | <input type="checkbox"/> 208VAC ± 10% |
|                                  |                                 |                |                                      | <input type="checkbox"/> 220VAC ± 10% |
|                                  |                                 |                |                                      | <input type="checkbox"/> 230VAC ± 10% |
|                                  |                                 |                |                                      | <input type="checkbox"/> 240VAC ± 10% |

### Available Models

#### With Manual Controller

308AMX-UPC3M  
308AMXT-UPC3M

#### With Programmable Controller

308AMX-UPC3      308AMXT-UPC3  
308AMX-UPC32      308AMXT-UPC32

### Order Example

308AMXT-UPC32, T= 2.0:1, V<sub>IN</sub> : 120VAC

- 750VA, 3-Phase, AC Power Source with optional transformer and UPC-32 programmable controller.
- Standard GPIB Interface
- 2.0:1 Transformer Ratio
- 120VAC, 1 Phase Input Voltage

### Typical Delivery Items

- AC Power Source
- English Manuals (AC Source and Controller)
- UPC Studio Software - (Download)
- UPC Interactive LabVIEW™ Libraries (Download)
- Compliance Certificate with Test data
- CE Conformity Document (CE Models)



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