



# Transformer Test Solutions

**INNOVATE THE WAY YOU TEST**

Advanced AC Power Source /  
Frequency Converter Test Solutions





# AC & DC Solutions

- AC Power Sources & Frequency Converters
- Regenerative Grid Simulators
- AC & DC Sources & Loads
- EMC Test Systems
- Test Control Software
- Custom System Integration

## PRODUCTS & SOLUTIONS

Celebrating Over 50 years in Business



Modular & Scalable Power



Advanced Hardware Performance



High Quality & Safety



Flexible Range of Voltage, Current, Frequency



Fast Response Times



Intuitive Software





# The PPS Advantage



High Performance, Safety & Reliability



Best-in-Class User Experience



Versatility



Customized System Solutions




Fast Lead Times



Application Expertise



Excellent Customer Service



Our reputation as a market and technology leader stems from best-in-class products, continual investments in R&D, and exceptional customer support, worldwide.



# Transformer Applications

Power Line Transformer Testing  
- Pole Mount to Substation

Harmonics Mitigating or  
Air-Cooled Testing

- ✓ Modular and Scalable Power
- ✓ Maximum System Reliability
- ✓ Robust, Rugged Physical Design
- ✓ Powerful Output
- ✓ Lower Install & Maintenance Costs
- ✓ Unmatched Performance/Price Ratio
- ✓ User-Friendly Display & Control





# Example Transformer Test Customers



## Example applications

- Facility frequency converter
- Transformer production line tests
- Safety compliance testing
- Applied Test Sets
- Core loss and load loss
- Induced Testing
- Heat run



# Transformer Test Solutions

## Mid to High Power

### MS Series



**62.5kVA per cabinet  
Parallel up to 625kVA**

- 20-500Hz (1000Hz. Optional)
- Voltage: 0 up to 600V
- Single, Split, Three-Phase
- Sine Waveform Only
- **Last Time Buy: 07/31/25**

## Low to Mid-Power

### ADF or AFX Series



**60kVA, 90kVA, 180kVA**

#### ADF Series

- 45 – 500 Hz; Option: 15 – 1,200 Hz
- Voltage: 0 up to 300V L-N/520V L-L
- Single or Split, Three-Phase
- Sine Waveform Only

#### AFX Series *\*Recommended for Harmonics*

- 5 – 1,200 Hz; Extended: 1 – 3,000 Hz
- Single, Split, Three phase Output Modes
- Voltage: 0 up to 333Vac L-N/576Vac L-L or 425Vdc
- Advanced Waveforms and Harmonics Capabilities

## Very High Power

### Zenone



**250kVA, 500kVA, 1MW**

- 40Hz - 200Hz; Option up to 450Hz
- Voltage: 0 up to 300V L-N/520V L-L
- Three - Phase
- Sine Waveform Only

# MS Series up to 62.5kVA

## *Previous Generation Transformer Frequency Converter*



- **AC only** Test Systems
- **Single, Split, Three phase** Output Modes
- **Wide Power Range Options** 62.5kVA to 625kVA
  - Up to 0-600 VAC
  - **Programmable Frequency**
  - 20-500 Hz
  - 1000Hz optional
- **GPIB or RS232** Interfaces
- Compatible with PPS UPC Manager for Legacy Customers



## Previous Generation Compatibility

For previous MS Series customers who prefer to have the same model, a Last Time Buy is available until 7/31/25

## End of Life Notice

- Due to supply parts, Pacific Power will no longer be manufacturing the MS Series. **The Last Time Buy date is: 07/31/25**

# ADF or AFX Series up to 180kVA

## High Power Density for Mid to High Power Applications



60kVA, 90kVA per cabinet  
Parallel up to 180kVA (2 cabinets)



### Compact High Power Density

Maximize floor space with  
90kVA per cabinet

#### ADF Series

- **Single, or Split & Three phase Output Modes**
- **Constant Power Range Options:** 300V L-N/519V L-L
- **Programmable Frequency:** 45 to 500 Hz; 15 to 1200 Hz Option
- **Sine Waveform; Scalar Measurements**

#### AFX Series

- **Single, Split, Three phase Output Modes**
- **Constant Voltage Range:** 0 up to 333Vac L-N/576Vac L-L or 425Vdc
- **Programmable Frequency:** 15 – 1,200 Hz; Extended: 1 – 3,000 Hz
- **Phase programming, Transient Mode**
- **Sine, Square, Triangle, Clipped, Arbitrary Waveforms**
- **Scalar, Waveform Capture, Harmonic Analysis**

USB, LAN, GPIB & RS232 Interfaces

PPS UPC Compatible Manager for Legacy Customers





## FVCT Series

*Pacific Power Source Powered by Zenone*

### High Power AC Power Source / Frequency Converter

- **Power Levels: 250kVA, 500kVA, 1MW**
- **Three Phase AC Output Modes**
- **Wide Power Range Options**
  - up to 1000VL-L | 577VL-N
  - Single or Dual Voltage Ranges
- **Programmable Frequency**
  - 40Hz – 200Hz
  - Alternate options 15Hz-80z, 200Hz - 350Hz, 350Hz - 450Hz
- **Overload capability 120%**
- **Standard RS232, RS485 and Analog Input**
- **Optional Fiber Optic Interface**
- **Sine Wave Output**
- **Harmonic Capabilities**



**Scalable High Power**

Up to 1MW for high power applications



# Enhance Transformer Testing

1

## Core Loss Tests

Perform at a wide range of frequencies without changing test system configuration

3

## Frequency Control Methods

Eliminate over-voltage conditions on the UUT (over-voltage occurs when the capacitive transformer load self-excites a motor generator)

2

## Induced Tests

All transformers become capacitive at some frequency. Easily vary the frequency to find the minimum excitation current. Quickly change frequency to a multiple of the core loss frequency, then ramp testing to find the induced test frequency that draws the least current

4

## Partial Discharge Filtering

Built-in output capacitive filtering on the Pacific Power Source unites reduces the Partial Discharge (PD) to less than 5pC



# In-Field Examples



**MS Series**



**Zenone FVCT Series**



# Modern Transformer Test Systems Vs. Legacy Methods

## Test Advantages over *Motor-Generator Sets*:

- Voltage stability
- Quieter operation
- Ability to perform RIV/PD without in-line noise filters
- Built in soft-start feature does not need more than rated power at start-up
- Variable frequency range
- Low risk of self-excitation
- Motor-generation sets can have back-EMF

## Test Advantages over *Under Load Regulators*:

- Finer control over output voltage adjustments (i.e. resolution of 0.1Vac compared to 10 to 20Vac)
- Built-in variable frequency control
- No sliding contacts to generate PD due to moving brushes
- Faster control of voltage ramps
- Ability to turn off the voltage instantly



# Test System Requirements & Advantages

 High Performance

 Fast Response Times


 High Frequency & Precise Control

 Interoperable with Third-Party Devices

 High Current, Low Bandwidth

 Safety Protection Features

 Modular & Scalable Power

 User-Friendly Display & Control Options



# Worldwide Sales & Support Centers



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# Pacific Power Source Products Powered by Zenone





# About Zenone Elettronica

Pacific Power Source is a close partner with **Zenone Elettronica**, a leader of high power, high energy efficient test solutions such as AC current sources, frequency converters, and more. Zenone is a trusted partner with high-quality test solutions. We carry a select group of products from Zenone Elettronica which compliments our portfolio solutions.



## AZX Series: A Partner Collaboration

Our flexible, high performance, and energy-efficient the **AZX Series** 'All-in-1' AC/DC Power Source, Current Source, AC/DC Load is **Pacific Power Source** product collaboration with Zenone Elettronica.







# Pacific Power Source Powered by Zenone Elettronica



**FVCT SERIES**

## High Power, Energy Efficient AC Frequency Converters

- Frequency converters 5KVA to 600KVA 150Vac to 1000Vac



**GI2k Series, GI-S2k Series, GIS2k Series**

## AC /AC&DC Current Sources

- Pulse AC Current source 5KVA to 300KVA 900A to 40KA output frequency 40 - 200Hz
- AC Current source 600VA to 300KVA 50A to 20KA output frequency 40 - 200Hz
- AC and DC Current source 600VA to 300KVA 40A to 10KA output frequency DC - 2000Hz



**AL3000 & R SERIES**

## High Power DC Power Supply

- Fast DC Power 5KW to 500KW 10Vdc to 1200dc
- Fast Bi-directional DC Power 5KW to 500KW 10Vdc to 1200dc