

# PRODUCT OVERVIEW

- Power supplies, Sources and Loads  
Electronic Test & Measurement Equipment
- System Integration – Test Systems –  
Custom solutions
- Service – Calibration – Rentals

## Power Supplies, Sources, Loads & Analyzers

- AC&DC-Power sources
- AC&DC Power Sources, Regenerative
- Grid Simulators, Regenerative
- DC-Power Supplies, Regenerative
- AC&DC Electronic Loads, Regenerative
- Harmonics & Flicker Test Systems
- Power Analyzers



## FREQUENCY CONVERTERS 50/60 HZ – AC-POWER SOURCES



FC300-Series

1Φ~

### ADAPTIVE POWER SYSTEMS

#### FC300-Series: Compact Single Phase Frequency Converters

- » Single phase; only sine wave
- » Output Power: 500VA and 1kVA
- » Output Frequency: 45-450Hz
- » Output Voltage: Dual Range, 0-155V or 0-310V, 1 phase

NEW



LSX-Series

1+3Φ~+~

### PACIFIC POWER SOURCE

#### LSX-Series: 1,2 & 3 phase AC Sources

- » Single, Split or Three Phase models
- » Power: 1500VA up to 6000VA
- » Voltage: up to 600Vrms (T Option)
- » Frequency: 15-1200Hz
- » Sine & Arbitrary Waveforms ~+~
- » LAN (LXI), USB, GPIB, RS232 standard



ADF-Series

1+3Φ~+~

### PACIFIC POWER SOURCE

#### ADF-Series: High Power AC Sources

- » Single or Three phase models
- » Power: 15kVA up to 90kVA
- » Frequency: 15-500Hz (45-1200Hz option)
- » Voltage: Single voltage range with Constant-Power, 0-300Vac / 425Vdc
- » LAN (LXI), RS232, USB, GPIB standard

NEW



CGS100-Series

1Φ~+DC

### ADAPTIVE POWER SYSTEMS

#### CGS100-Series: Compact 1-phase Source with AC- or DC-Output

- » Single phase; only sinewave
- » Power: 1-Φ: 500VA, 1250VA, 2000VA or 4000VA
- » AC- or DC-Output
- » Frequency: DC, 40-500Hz
- » Voltage:
  - AC: 0-155Vac and 5-310Vac
  - DC: 0-210Vdc and 5-420Vdc



LMX-Series

1+3Φ~+~

### PACIFIC POWER SOURCE

#### LMX-Series: 1,2 & 3 phase Linear AC

- » Low Noise, Low Distortion
- » Linear Technology
- » Voltage: up to 600Vrms
- » Frequency: 15-5000Hz
- » Power: 500VA to 30kVA
- » Voltage: up to 600Vrms (T Option)
- » Sine & Arbitrary Waveforms ~+~
- » LAN (LXI), USB, GPIB and RS232 standard.



FVC-Series

1+3Φ~

### ZENONE ELETTRONICA

#### FVC-Series: 3 phase voltage and frequency converter

- » 3-phase with 1 or 2 ranges
- » Power: 5-1000kVA
- » Voltage: up to 1000V
- » Frequency: 40-200Hz
- » Regenerative Option
- » RS232/RS485, USB, LAN

## ADVANCED AC & DC SOURCES



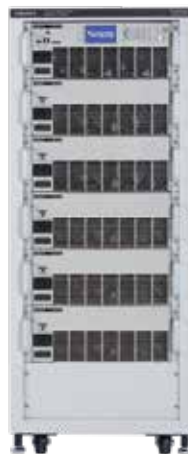
3150AFX-Source 15kVA/kW

1+3Φ~+DC+~

### PACIFIC POWER SOURCE

#### AFX-Series: Highest Power Density AC & DC Power Supplies

- » Single and three phase, 6kVA up to 180kVA
- » Frequency: 15-1200Hz (1-3000Hz extended)
- » Output Capability AC, DC, AC+DC, DC+AC
- » Voltage: Single voltage range with Constant-Power, 0-333Vac / 425Vdc
- » Sine & Arbitrary Waveforms ~+~
- » LAN (LXI), RS232, USB, GPIB standard
- » Harmonic waveform synthesis, analysis and Programmable output impedance.



AFX-Model with 90kVA in 28 U

## HARMONICS & FLICKER SYSTEMS

NEW

### PACIFIC POWER SOURCE

1+3Φ~+DC+~

#### ECTS2 Series - IEC Harmonics, Flicker & Immunity Test Systems

#### REGENERATIVE Systems Available



- » Single and three phase, 6kVA up to 110kVA
- » Full Compliance per:
  - » IEC 61000-3-2 & -3-11 Harmonics
  - » IEC 61000-3-3 & -3-12 Flicker
  - » IEC 61000-4-11 AC Voltage Dips, Interruptions and Variations (with EPTS option)
  - » IEC 61000-4-13 Interharmonics
  - » IEC 61000-4-14 AC Voltage Fluctuations
  - » IEC 61000-4-17 DC Ripple
  - » IEC 61000-4-27 AC Voltage Unbalance three phase (with EPTS option)
  - » IEC 61000-4-28 Frequency Variations
  - » IEC 61000-4-34 AC Voltage Dips, Interruptions and Variations (with EPTS option)



ECTS2-3450F 45kVA EMC Test System



CPS120E-3U 2000VA AC & DC Power Source

1Φ  $\sim$  + DC +  $\sim$

ADAPTIVE POWER SYSTEMS

CPS100S Series: AC&DC Power Sources

The programmable AC&DC-power sources of the CPS100 series are available from 600 up to 5000VA in either **standard or enhanced version**. Compared to the standard version, the enhanced version offers a higher frequency range, programmable output impedance and harmonic as well as inter-harmonic generation.

- » 1-phase AC & DC power sources: Up to four devices can be connected in parallel or two devices in series. With this technology you can build a **3-phase power source with three devices**.
- » Sine & Arbitrary Waveforms  $\sim$  +  $\sim$
- » Output frequency 15-1000Hz
- » LAN, USB, RS232, GPIB

CPS100S SERIES	
Power	600VA to 5.000VA/W
Voltage	0-300Vac, 0-424Vdc
Current AC	0-8Arms; 0-13,8Arms; 0-16Arms; 0-23Arms
Frequency	DC, 15-1000Hz



CPS Series Graphical User Interface for Windows

Regenerative AC- Power sources - Grid emulators (4-Quadrants)

1+3 Φ  $\sim$  + DC +

PACIFIC POWER SOURCE

AZX-Series: Regenerative AC & DC Power Sources

- » Single and three phase, 30kVA, 45kVA or 55kVA, Parallel to 440kVA
- » Frequency: 1Hz-1000Hz
- » Output Capability AC, DC, AC+DC, DC+AC
- » Voltage: 0-440Vac / 650Vdc
- » Sine & Arbitrary Waveforms  $\sim$  +  $\sim$
- » PHIL Option
- » LAN (LXI), RS232, USB, GPIB



3550AZX Model 55kVA



1+3 Φ  $\sim$  + DC +  $\sim$

ZENONE ELETTRONICA

FVSR-Series: Regenerative AC & DC- Power Sources

- » Three Phase
- » Frequency: 10-1000Hz, DC
- » Power: 5-1000kVA
- » Voltage: Up to 1000V
- » RS232/RS485, USB, LAN
- » AC and DC output modes
- » Regenerative design for high performance applications with highly dynamic conditions



FVSR-Series



## PROGRAMMABLE DC-POWER SUPPLIES (Source-Sink)

### 19" PROFESSIONAL RACK MOUNT

19" RACK MOUNT

**NEW**



DCS Series-DC Power Supplies



DCB Series-Bi-directional DC Power Supplies



DCS and DCB Series-Parallel Cabinet DC Power

#### ADAPTIVE POWER SYSTEMS

##### DCS-Series: 3U & 4U DC Power Supplies

- » Power: up to 15kW in 3U, 30kW in 4U
- » Voltage and Current Doubling Technology using Auto Ranging
- » Voltage: 80V up to 2000V
- » Parallel Capability to 480kW

#### ADAPTIVE POWER SYSTEMS

##### DCB-Series: 3U & 4U Bi-directional DC Power Supplies/Loads (Regenerative)

- » Power: up to 15kW in 3U, 30kW in 4U
- » Voltage and Current Auto Ranging
- » Voltage: 80V up to 2000V
- » Regenerative when sinking current
- » Three phase 480V, 50/60Hz AC input
- » Parallel Capability to 1MW

5 kW up to 1MW / 2000V

## ZENONE 1- & 2-QUADRANT DC-POWER SUPPLIES (Source-Sink)

Regenerative

**NEW**



AL3000-Series



AL3000R-Series



#### ZENONE ELETTRONICA

##### AL3000-Series: High-power DC-power supplies

- » Power output: up to 4MW, 5000A
- » Voltage: up to 1200V
- » Operating modes: CV, CC, CP
- » Modular architecture, possible parallel connection
- » Special versions available on request

#### ZENONE ELETTRONICA

##### AL3000R-Series: Regenerative high-performance DC-power supplies

- » Power output up to 4MW, 5000A
- » Voltage up to 1200V
- » Regenerative
- » Quick rise times < 1ms
- » Operating modes: CV, CC, CP, CR
- » Modular architecture, can be connected in parallel
- » Multichannel options
- » RS232, RS485, analogue inputs, digital I/O, Safety-Circuit; optional LAN, USB, fiber optic
- » Resistor simulation 0-1000Ω, 1mΩ resolution
- » Special versions available on request
- » Options: ISO-Guard, redundant Safety circuit, output relay

6.7 kW up to 4MW / 1200V

## ELECTRONIC AC-LOADS (AC&DC Loads)

Up to 300W / 20A

### Tabletop and 19"-versions



3A Series

#### ADAPTIVE POWER SYSTEMS

##### 3A Series: Modular AC&DC-Loads

- » Power: 300W/VA
- » Voltage: up to 300V, DC
- » Current: up to 20Aeff / Freq: 40-400Hz
- » Up to 4 modules per chassis
- » PC-Software AC&DC Load Control

3A Series Model overview			
Model	Max. Power (W or VA)	Max. Voltage (Vrms)	Max. Current (Arms)
3A060-20	300	60	20
3A150-08	300	150	8
3A300-04	300	300	4

Up to 33,75 kVA / 350V



3C Series

#### ADAPTIVE POWER SYSTEMS

##### 3C Series: AC&DC-Loads

- » Power: up to 22.5kVA/kW 1 $\phi$  or 67.5kW 3 $\phi$
- » Five models with 1875 to 3750 VA/W in 4U
- » Voltage: up to 350VAC, 500VDC
- » Current: up to 112.5A / Freq: DC, 40-440Hz
- » Single and Three Phase Load Configurations
- » LAN, USB, RS232, GPIB
- » PC-Software AC&DC Load Control

3C Series Model overview			
Model	Max. Power (VA or W)	Max. Volt (Vac/Vdc)	Max. Current (A)
3C018-18	1875	350 / 500	18.75
3C028-18	2800	350 / 500	18.75
3C028-28	2800	350 / 500	28.0
3C038-28	3750	350 / 500	28.0
3C038-38	3750	350 / 500	37.5
3C056-56	5600	350 / 500	56.0
3C075-75	7500	350 / 500	75.0
3C112-112	11250	350 / 500	112.5
3C150-112	15000	350 / 500	112.5
3C188-112	18750	350 / 500	112.5
3C225-112	22500	350 / 500	112.5



3D Series

#### ADAPTIVE POWER SYSTEMS

##### 3D Series: AC&DC-Loads

- » Power: 1875W / 1875VA or 3700VA, 1 $\phi$
- » Voltage: 280VAC, 400VDC
- » Current: 18.75A

## ELECTRONIC DC-LOADS

DC Module up to 400W

### Modular Plug-in versions



4 Series

#### ADAPTIVE POWER SYSTEMS

##### 4 Series: Modular DC loads

- » Power: up to 400W
- » Voltage: up to 500V, DC
- » Current: up to 80A
- » Modular (up to 8 channels per chassis)
- » PC-Software available
- » Mainframes for 1,2 or 4 modules

Model series	max. power	max. voltage	max. current
1-Channel modules	75-300W	60-500V	12-60A
2-Channel modules	250/50W, 120/120, 40/40	80/80 V	60/6, 24/24, 3/3 A
LED modules	300W	500W	24A

NEW

DC Loads up to 3600W

41S Series



#### ADAPTIVE POWER SYSTEMS

##### 41S Series: Economy DC loads

- » Power: 250W, 350W or 700W
- » Voltage: 80V or 500V
- » Current: 15A, 30A, 50A, 70A or 140A
- » 1/4 or 1/2 rack wide or bench top
- » Standard interface: USB & RS232

Model	Power	Voltage	Current
41S0850	0-250 W	0-80 V	0-50 A
41S0870	0-350 W	0-80 V	0-70 A
41S5015	0-350 W	0-500 V	0-15 A
41S08140	0-700 W	0-80 V	0-140 A
41S5030	0-700 W	0-500 V	0-30 A

41T Series Turbo



#### ADAPTIVE POWER SYSTEMS

##### 41T Series: Half Rack DC loads

- » Power: 800W, 1600W in TURBO mode
- » Voltage: 80V or 500V
- » Current: 40A or 160A
- » 19" Half Rack with or bench top
- » Optional interface: USB, RS232, GPIB, LAN

Model	Power	Voltage	Current
41T08160	0-800 W	0-80 V	0-160 A
41T5040	0-800 W	0-500 V	0-40 A

5D Series LED



#### ADAPTIVE POWER SYSTEMS

##### 5D-Series: LED loads

- » LED loads
- » Voltage: up to 600V
- » Power: up to 1800 or 3600W
- » Current: up to 12 or 24A

Model	Power	Voltage	Current
5D18-12	0-1800 W	0-600 V	0-12 A
5D36-24	0-3600 W	0-600 V	0-24 A

## HIGH POWER DC-LOADS & LED LOADS

18000W up to 480kW / 1500V



5L Series 5L

### ADAPTIVE POWER SYSTEMS

#### 5L Series: Compact DC loads

- » Power: up to 1800W
- » Voltage: up to 60V
- » Current: up to 360A
- » 19"-Racks
- » Optional interface: USB, RS232, GPIB, LAN



### ADAPTIVE POWER SYSTEMS

#### 5D Series: LED loads

- » Power: 1200W or 2400W
- » Voltage: up to 600V
- » Current: 12A or 24A
- » 19"-Rack Mount or Cabinet
- » Optional interface: USB, RS232, GPIB, LAN



APS 5P-Series and 5V-Series

### ADAPTIVE POWER SYSTEMS

#### 5V Series: DC loads

- » Power: up to 14400W
- » Voltage: up to 500V
- » Current: up to 5000A

#### 5P Series: DC loads

- » Power: up to 14400W
- » Voltage: up to 60V
- » Current: up to 1000A

#### Common

- » 19"-Rack Mount or Cabinet
- » Optional interface: USB, RS232, GPIB, LAN



APS 5VPxA-Series



APS 5VPxC-Series

### ADAPTIVE POWER SYSTEMS

#### 5VPxA & 5VPzC Series: DC loads

- » Power: 5kW to 60kW
- » Parallellable to 300kW
- » Voltage: up to 1250V
- » Current: up to 2000A
- » Cabinets on Casters

Do you have questions about special products, a product series or need a data sheet? Visit our website to get more information about our power solutions portfolio: [www.ppstsolutions.com](http://www.ppstsolutions.com)

## REGENERATIVE DC-LOADS

### 19" RACK MOUNT

3.1 kW up to 480kW / 1500V



### ADAPTIVE POWER SYSTEMS

#### 6RL-Series: Regenerative loads 3U Height

- » Voltage: up to 1500V
- » Power: 3.1kW to 15kW in 3U Rack Mount
- » Current: up to 510A
- » Parallellable in Master/Slave Mode
- » Energy recovery up to 94%
- » 208Vac or 380Vac~480Vac Grid Connection models
- » Also see APS DCB Series Source/Sink DC Power Supply & Load Combination



### ADAPTIVE POWER SYSTEMS

#### 6RL-Series: Regenerative loads 4U Height

- » Voltage: up to 2000V
- » Power: 30kW in 4U Rack
- » Current: up to 1000A
- » Parallellable in Master/Slave Mode
- » Energy recovery up to 94%
- » 208Vac or 380Vac~480Vac Grid Connection models
- » Also see APS DCB Series Source/Sink DC Power Supply & Load Combination

# REGENERATIVE AC&DC-LOADS



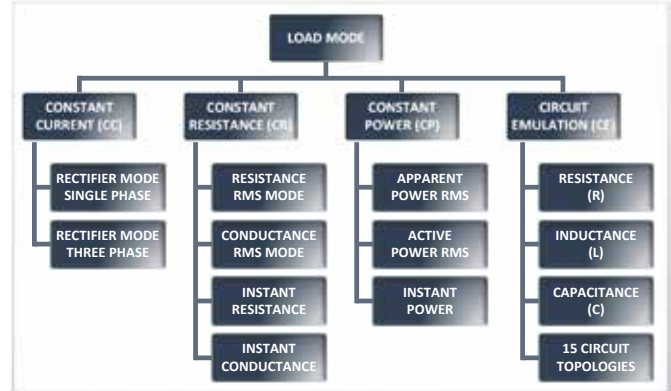
3500AZX Model 50kVA



## PHIL – Power Hardware in the Loop (Option -L)

### Pacific Power Source AZX-L Series: AC- & DC amplifier for PHIL-Applications

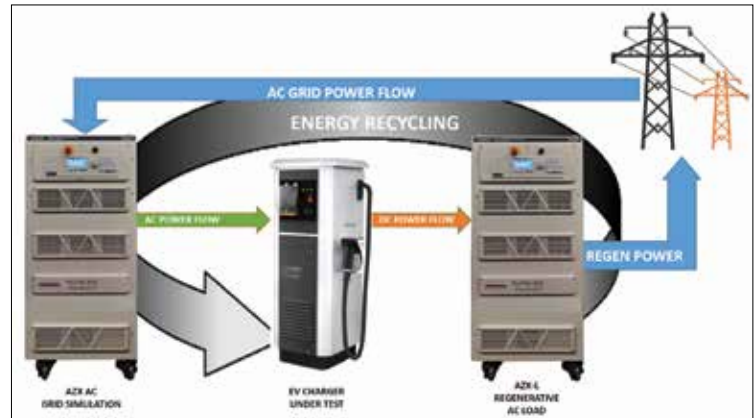
- » Single, Split & 3 Phase load modes
- » 30kVA/kW up to 440kVA/kW, can be connected in parallel
- » Up to 440Vac LN / 760Vac L-L & ± 650Vdc input voltage
- » Operating modes: CC, CP, CR & CZ
- » Analog control via RMS-values or real-time waveforms (Small signal frequency bandwidth up to 5kHz)
- » Galvanic isolation



Available AZX Load Operating Modes



Features	CC Mode	CR Mode	CP Mode	CE Mode
User Waveform	✓	✓	✓	
Rectifier Waveform	✓	✓	✓	
Current Harmonics	✓			
Current Inter Harmonic	✓			
Sync Mode	✓	✓	✓	✓
Transient Programming	✓	✓	✓	
AC, DC & AC+DC Mode	✓	✓	✓	✓
Analog Input Programming	✓	✓	✓	



AZX and AZX-L Bidirectional V2G and V2H EV Charger Test Setup

# POWER ANALYZERS



M1001 Single-channel Power Analyzer

### ADAPTIVE POWER SYSTEMS

#### M1001 Single-channel Power Analyzer

- » 6 Voltage Ranges up to ±800Vpk / 500Vrms
- » 18 Current Ranges up to ±200Apk / 20Arms
- » AC or DC Measurement Modes
- » Numeric and Graphical Data Display Modes
- » Voltage & Current Harmonics Measurements
- » VTHD and ITHD Measurements
- » Power ON/OFF Cycling with Programmable On and Off Phase Angles
- » Bench Use or 2U Height, 1/2 Rack Mount



M2000 Multi-channel Power Analyzer

### ADAPTIVE POWER SYSTEMS

#### M2000 Multi-channel Power Analyzer

- » Accuracy, Bandwidth and Ease of Use
- » Large Color Touch Screen Operation
- » Up to four Channels
- » Internal or External Current Shunt Cards
- » Numeric and Graphical Displays
- » Energy Star / IEC62301 Compliant Standby Power Measurement mode
- » Ultra-quiet Fan-less Operation
- » Bench Use or 4U Height 19" Rack Mount

## CURRENT SOURCES



GI-Series

### ZENONE ELETTRONICA

#### GI-Series: AC current sources, continuous or pulsed

- » Single and three phase versions
- » Output current: up to 50kA
- » Output power: up to 1MVA
- » Output frequency: 40-200Hz
- » Bandwidth: 800Hz
- » Up to three current ranges
- » Possible to be connected in parallel
- » Continuous or pulsed operating mode
- » Windows©-Software GI-Manager



GIS-Series

### ZENONE ELETTRONICA

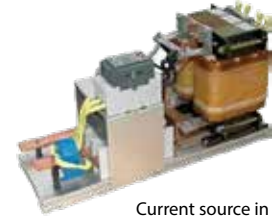
#### GIS-Series: AC&DC power source

- » Single and three phase versions
- » Output current: up to 5000A
- » Output power: up to 200kVA
- » Output frequency : DC, 10-1000Hz with an internal controller or DC, 1500Hz with external controller (optional 2500Hz)
- » Bandwidth: 2500Hz
- » Up to two current ranges
- » Can to be connected in parallel
- » Continuous or pulsed operating mode
- » Windows©-Software GI-Manager

Zenone Elettronica is able to produce current sources in a wide variety of designs and thus offers customized solutions. Many combinations of power and current are possible. Open frame versions for the direct integration in production lines and automated test systems can also be realized. Contact PPST Solutions to discuss your specific Current Source requirements.

## APPLICATIONS FOR CURRENT SOURCES

- » Continuous current generators for thermal testing and long-term test of circuit breakers
- » Pulse generators for magnetic trip tests of circuit breakers
- » Testing and calibration of amperemeters and power meters
- » Trip test of fuses
- » Heating tests



Current source in open format



### PPST Solutions

#### Sales: USA, Canada, Mexico, South America

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Mail: [info@ppstsolutions.com](mailto:info@ppstsolutions.com)  
[www.ppstsolutions.com](http://www.ppstsolutions.com)

#### Sales: Europe Caltest Instrument, GmbH

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### Our partners

