

AGX Series

Introducing the AGX Series

The Industry's Most Flexible, High Performing, and Intelligent All-in-1 Regenerative AC/DC Power Source







Constant Power





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Scalable Power

All-in-1 AGX Series

Regen AC/DC Power Source up to 756kW

The AGX Series is a high performance, fully regenerative 4-quadrant AC and DC power source that can function as an AC/DC power supply, current source, and AC/DC load (optional). The AGX's high-power density provides 6kVA/ kW up to 21kVA/kW in a 4U chassis and can parallel up to 189kVA/kW in a 19" cabinet. Dual Cabinets can parallel up to 252kVA/kW. Three-Phase High Power System configurations available up to 756kVA/kW.

The AGX has the highest performance and flexibility of its class. Get the ultimate flexibility with AC, DC, AC+DC, and DC+AC capability and highly versatile channel outputs. Ideal for dynamic applications that require advanced control and programming. The wide selection of power, frequency, and phase angles allow you to test a range of renewable energy, electric vehicle charging, aerospace, and industrial markets in addition to bidirectional applications.

Application Examples:

- Aerospace & Defense Power and Compliance Testing
- EV Charging, On Board Chargers (OBC), V2G, V2H and V2X
- Solar PV/Grid-Tied Inverters
- Energy Storage Systems (ESS), Home ESS
- Smart-Grid Simulation
- AI Power Servers
- EMC Compliance Testing

Key Features

- •All-in-1 AC/DC Power Source, Current Source & Load
- » 4-Quadrant AC & DC Power Source
- » Current Source
- » AC/DC Electronic Load Option
- •High Power Density Up to 21kW in 4U; Parallel up to 189kW per Cabinet, or Dual Cabinets up to 252kW
- •Three-Phase High Power Systems up to 756kW
- •AC, DC and AC+DC Output Capability
- Single, Split, Three-Phase; Multi-Channel Mode » Isolated Neutrals Available (Option W)
- •Constant Power Voltage Range: 350Vac L-N/606Vac L-L or ±500Vdc
- High Frequency Range:
 - » DC, 15Hz 1200Hz
- » Extended Frequency Range 1Hz 3000Hz
- Galvanic Isolation from Facility AC Input to Output and Between Output Phases / Channels
- Silicon Carbide (SiC) Based Technology
- Exceptionally High AC Current; Overload Capability
- Waveform capture and Scope display
- Built-in SmartSource Suite: Web Interface & Control
- IEC61000-4-13 Inter-Harmonics Test Option

LXI Flexible Control

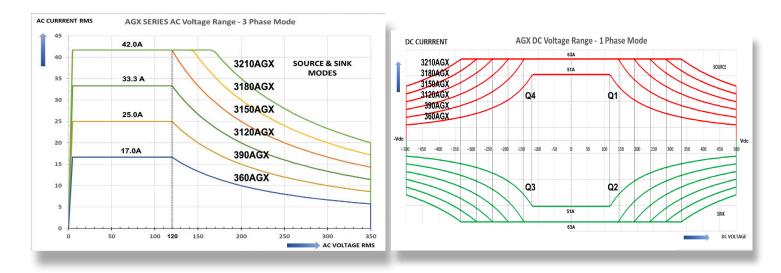
GPIB RS232



Constant Power Voltage Range

The AGX Series uses a single, constant power voltage range for both higher current at lower voltage and higher voltages at lower currents eliminating the need to switch between voltage ranges.

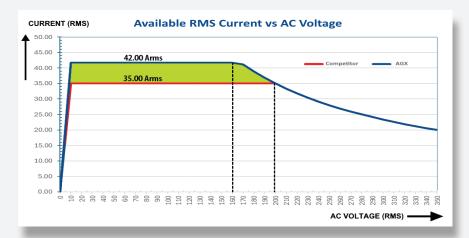
Typical dual range systems cause temporary output power loss when switching between ranges interrupting power to the unit under test. The AGX's constant power voltage range allows for testing a broad range of conditions and test requirements without interruption of output power.



More Current at Low Voltage

The AGX provides a broader range of current eliminating the risk of over or under sizing the power source.

- Higher RMS current rating at lower voltage settings
- No over or over size AC Source to achieve required current levels
- Reduces capital investment
- Test Constant Power AC input products down to lowest rated input voltage



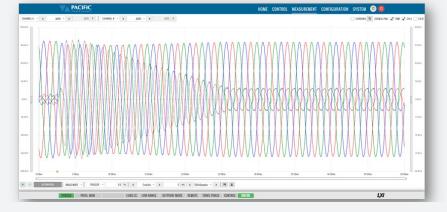
The AGX provides 20% more current from 120V to 200V compared to a typical unit that maxes out at 35A/phase.



130% Overload Capability for 2s

The AGX is designed to handle overload conditions with its capability of providing 130% of its rated current for a duration of 2 seconds. This is critical for applications that have inrush current conditions that arise due to start up, transient power demands, or sudden changes in loads. Applications include motors drives, industrial automation, power conversion systems applications.

- Higher RMS current rating at lower voltage settings
- No over or under-sizing AC Source to achieve required current levels
- Reduces capital investment



Waveform Example of Inductive Motor Emulation: 400Hz, 55A (AGX Series overload from 42A)

Ultimate Flexibility with Six Output Configurations

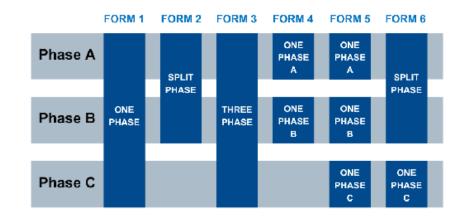
Flexibly test a wide range of grid-tied conditions and EUTs with six different output configurations in either AC, DC; source or load mode. Isolated neutrals enables operation on each phase as a different function: voltage source, current source, or load (option).

- Forms 1 through 3 are common for single, split or three-phase AC connections.
- Forms 4 through 6 allow for two or three EUTs' to be tested with the same AGX source or load.

This means that three independent single-phase 7 kW EUT's could be tested simultaneously using a single 21kW AGX unit.

• Form 5 supports different frequencies on each phase simultaneously.

Simultaneous AC & DC Operation on Single Phases and Automatic Switching of Operation Modes



Mixed Source / Load mode combinations available in Forms 4, 5 and 6.



Regenerative, Bidirectional Power

Regenerative AC & DC power sources provide energy efficiency and significant cost savings by returning energy back to the facility or the grid. The AGX produces less heat, ensures a stable testing environment for reliability, reducing the need for additional cooling systems. Bidirectional power flows are also critical to prevent back-EMF in applications such as motors.



High Performance, Wide Frequency Range

The AGX has a wide output frequency range which provides more flexibility from 15Hz to 1200Hz. T

his is ideal for avionics and defense applications that require both 400Hz steady state frequency as well as 360Hz to 800Hz wild frequency ranges.

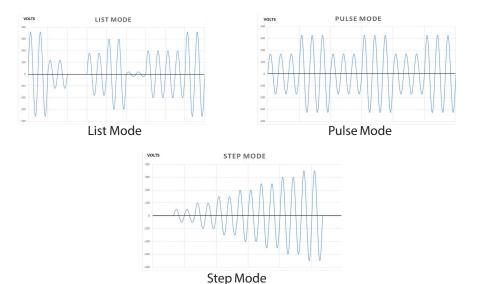


The AGX also offers extended frequency range from 1Hz to 3000Hz.

Powerful Waveform & Measurement Tools

The AGX has a built-in waveform digitizer with scope function.

- Fast transient capabilities at 200µsec time resolution
- Over 200 Arbitrary Waveform
- 10 Standard, Sine, Square, Triangle, Clipped LIST, PULSE and STEP Transients
- Waveforms: 10 Standard, Sine, Square, Triangle, Clipped
- Harmonic generation (Inter-harmonics - Option C)





User Friendly Control Options

Multiple integrated control options include:

- Intuitive Touch Screen LCD Display with Soft Key driven Menus
- SmartSource Suite Web Interface
- •LAN, GPIB, RS232 & USB Interfaces, and ModBus (optional)
- Supports external touch screen monitor via Video Output Interface

OUTPUT ENABLE	ON		o	FF	SELECTED PHASE	ABC	A	в	c
FREQUENCY	50.00	Hz	+	•	CURRENT LIMIT	1.00	A _{RMS}	+	•
VOLTAGE AC	115.00	V _{RMS}	+	•	POWER LIMIT	1.000	kW	+	•
VOLTAGE DC	0.00	V_{DC}	+		KVA LIMIT	1.000	kVA	+	
		🖋 AF	PPLY	X CAN	CEL C	SYNC			
MEASUREMENTS	3	PI	hase A	Phase B	Phase C	Total			
FREQUENCY		50).00 Hz	50.00 Hz	50.00 Hz				
VOLTAGE L:N RMS (AC-DC) Voltage L:N RMS (AC) Voltage L:N DC		0.00 V _{RMS} 0		0.00 V _{RMS}	0.00 V _{RMS}				
		0.00 V _{RMS} 0.0		0.00 V _{RMS}	0.00 V _{RMS}				
		0.	00 V _{DC}	0.00 V _{DC}	0.00 V _{DC}				
CURRENT RMS (AC-DC)		0.0	DO A _{RMS}	0.00 Arms	0.00 A _{RMS}				
CURRENT DC		0.	OO A _{DC}	0.00 A _{DC}	0.00 A _{DC}				
POWER		0.0	000 kW	0.000 kW	0.000 kW	0.000 kV	V		
WATT-HOUR	ON RST	0.0	00 kWh	0.000 kWh	0.000 kWh	0.000 kW	/h		
ELAPSED TIME						0s			
APP POWER		0.0	000 kVA	0.000 kVA	0.000 kVA	0.000 kV	A		
POWER FACTOR			0.00	0.00	0.00				
CURRENT CF	•								
			VAB	V _{BC}	V _{CA}				
VOLTAGE L·L RMS (AC+DC)			n/a	0.00 V _{RMS}	n/a				
VOLTAGE L·L RMS (AC)			n/a	0.00 V _{RMS}	n/a				
VOLTAGE L-L DC		0.	OO V _{DC}	0.00 V _{DC}	0.00 V _{DC}				



Simplify Test Automation with SmartSource Suite Remote Control Platform

Easily monitor, control, and manage testing with the AGX's **SmartSource Suite** remote control platform. Use the embedded, web browser interface with real-time control. Access control panels and test sequences on-premises or on any mobile device (laptop, phone, tablet) via secure client access.

- •Full control and measurement capability
- Program settings and measurement read back including digital scope and harmonics data
- •Extensive safety protection settings
- •Waveform selection, preview and edit modes
- •Execution of user's custom test sequences
- •Transient data entry and execution screen using a spreadsheet layout

Built-in Galvanic Isolation Reduces Safety Risks

The AGX provides both facility-to-output isolation, and phase to phase or channel to channel isolation. Galvanic isolation provides complete separation between the input and output so there is no electron flow between channels.

- Channel to channel isolation provides flexibility to use each phase as its own independent power source with FULL frequency and voltage control.
- Fully isolated design reduces safety risks for the operator and prevents unexpected UUT damage by preventing unwanted current or ground loops. This built-in capability doesn't require a transformer which saves significant costs and space.





All-in-1 Capability

Current Source Included

The AGX Series includes AC, DC, AC+DC and DC+AC output capablity. In addition to the AC/DC power source functionality, the AGX Series supports AC and DC Current Source mode. In this mode, AC or DC current is precisely controlled. Current and compliance voltage ranges are identical to this in source or load mode. Transient programming and user defined arbitrary current waveforms are available in this operating mode as well.

Current source mode is useful for applicatiaons that also include testing of protection devices like fuses, switches, transformers or circuit breakers. Maximum current range is available in single phase mode.

Fully Test AC Power with 4-Quadrant Load (Option L)

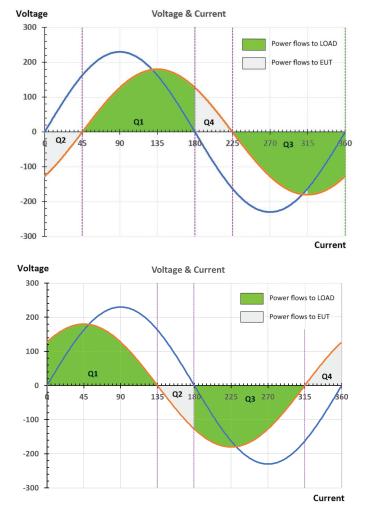
Optional load feature supports testing PV inverters, V2G, EV Chargers, EVSE, batteries, UPS, and AC/DC power supplies.

Fully operate in all four quadrants using programmable phase shift in CC or CS modes. This allows simulation of inductive and capacitive loads to fully test AC power sources, as shown in the leading and lagging power factor examples.

Simulate AC/DC linear and non-linear loads (rectified), inductive and capacitive loads with several operating modes.

AC Modes: Constant Current, Constant Power & Apparent Power, Constant Resistance, Constant Voltage, CC+CR, CC / CS Rectifier Mode 1ø & 3ø

DC Modes: Constant Current, Constant Power, Constant Resistance, Constant Voltage, CR+CC

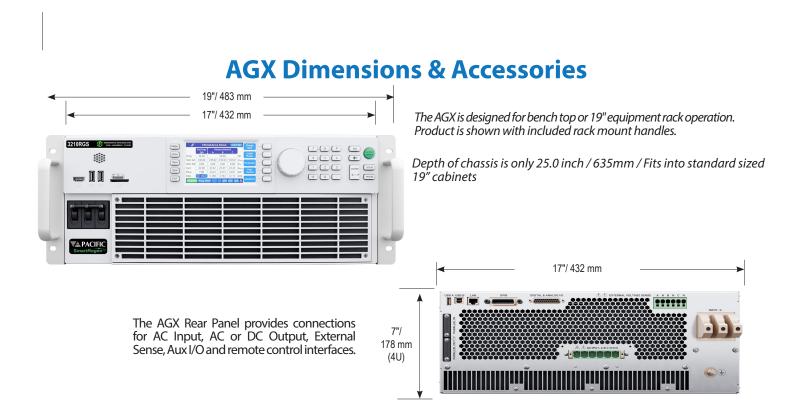




Rack Mount / Bench AGX Models

MODEL	Phase Mode	Rated Power ¹ AC / DC mode	Voltage Ranges² Vac L-N / Vdc	Max. AC/DC Current per Phase in 3 & 2 Phase Mode	Max. AC/DC Current 1 Phase Mode	Form Factor
360AGX-4U	1, 2 & 3 Phase	6 kVA, kW / 6 kW	0-350 Vac / 0-500 Vdc	17.0 Arms / 17.0 Adc	51 Arms / 25.0 Adc	4U Chassis
390AGX-4U	1, 2 & 3 Phase	9 kVA, kW / 9 kW	0-350 Vac / 0-500 Vdc	25.0 Arms / 21.0 Adc	75 Arms / 63.0 Adc	4U Chassis
3120AGX-4U	1, 2 & 3 Phase	12 kVA, kW / 12 kW	0-350 Vac / 0-500 Vdc	34.0 Arms / 21.0 Adc	100 Arms / 63.0 Adc	4U Chassis
3150AGX-4U	1, 2 & 3 Phase	15 kVA, kW / 15 kW	0-350 Vac / 0-500 Vdc	42.0 Arms / 21.0 Adc	126 Arms / 63.0Adc	4U Chassis
3180AGX-4U	1, 2 & 3 Phase	18 kVA, kW / 18 kW	0-350 Vac / 0-500 Vdc	42.0 Arms / 21.0 Adc	126 Arms / 63.0Adc	4U Chassis
3210AGX-4U	1, 2 & 3 Phase	21 kVA, kW / 21 kW	0-350 Vac / 0-500 Vdc	42.0 Arms / 21.0 Adc	126 Arms / 63.0Adc	4U Chassis

Note 1: Rated power shown is for Three Phase or Single Phase mode operation. For Split Phase mode, rated power is 2/3. Note 2: For Voltages above 350Vac some frequency and Vthd restrictions apply.



Safety Cover & Strain Relief Kit Option



This optional kit includes covers for AC input and AC & DC Output connections. Both covers include wire strain relief to prevent accidental release of input or output wiring.

Note: AC input and AC output wiring is NOT included.



Modular Power up to 189kW / 378A per Cabinet

The AGX Series provides modular and scalable power to meet changing test requirements. Easily parallel multiple chassis to reach up to **189kW with 378Amps** per cabinet. Cabinets can be paralleled up to 252kW. Three-Phase High Power System configurations available up to 756kW.

- Ease of reconfiguration allows for flexible test set ups and reduces downtime for repairs or maintenance.
- Flexibility to scale power now or later as you need it
- Paralleled units can have different power ratings
- Auxiliary no-controller models offer low-cost option
- Complete integrated 19" Rack systems; select from 18U, 32U, and 42U cabinets
- Parallel configuration kits available for system integrators using their own cabinets









Parallel Systems Installed in19" EIA Rack Cabinet

MODE	Rated Power ¹ AC / DC mode	Voltage Ranges² Vac L-N / Vdc	Max. AC/DC Current per phase in 3 & 2 Phase Mode	Rack Space			
3240AGX-4U	24 kVA, kW / 24 kW	0-350 Vac / 0-500 Vdc	68.0 Arms / 42.0 Adc	18U			
3300AGX-4U	30 kVA, kW / 30 kW	0-350 Vac / 0-500 Vdc	84.0 Arms / 42.0 Adc	18U			
3360AGX-4U	36 kVA, kW / 36 kW	0-350 Vac / 0-500 Vdc	84.0 Arms / 42.0 Adc	18U			
3420AGX-4U	42 kVA, kW / 42 kW	0-350 Vac / 0-500 Vdc	84.0 Arms / 42.0 Adc	32U			
3630AGX-4U	63 kVA, kW / 63 kW	0-350 Vac / 0-500 Vdc	126.0 Arms / 63.0 Adc	32U			
3840AGX-4U	84 kVA, kW / 84 kW	0-350 Vac / 0-500 Vdc	168.0 Arms / 84.0 Adc	32U			
31050AGX-4U	105 kVA, kW / 105 kW	0-350 Vac / 0-500 Vdc	210.0 Arms / 105.0 Adc	32U			
31260AGX-4U	126 kVA, kW / 126 kW	0-350 Vac / 0-500 Vdc	252.0 Arms / 126.0 Adc	32U			
31470AGX-4U	147 kVA, kW / 147 kW	0-350 Vac / 0-500 Vdc	294.0 Arms / 147.0 Adc	42U			
31680AGX-4U	168 kVA, kW / 168 kW	0-350 Vac / 0-500 Vdc	336.0 Arms / 168.0 Adc	42U			
31890AGX-4U	189 kVA, kW / 189 kW	0-350 Vac / 0-500 Vdc	378.0 Arms / 189.0 Adc	42U			
32100AGX-4U	210 kVA, kW / 210kW	0-350 Vac / 0-500 Vdc	420.0 Arms / 210.0 Adc	2 x 32U			
32310AGX-4U	231 kVA, kW / 231 kW	0-350 Vac / 0-500 Vdc	462.0 Arms / 231.0 Adc	2 x 32U			
32520AGX-4U	252 kVA, kW / 252kW	0-350 Vac / 0-500 Vdc	504.0 Arms / 252.0 Adc	2 x 32U			
Three-Phase high power system configurations available up to 756kVA/kW; contact Factory for details.							

Note 1: For Split Phase mode, rated power is 2/3.

Note 2: For Voltage ranges above 333Vac some frequency and Vthd restrictions apply.

Contact factory for cabinet output wiring modifications to support single phase AC mode on cabinets above 84kVA.



NODEL: 360AGX-4U 390AGX-4U 3120AGX-4U 3150AGX-4U 3160AGX		Technical Specifications								
Grid Simulator, AC and/or DC Power Source, AC and/or DC Current Source. Electronic Lad optional. AC Output Phase Modes (Form) 1, 2 or 3 1,	MODEL:				1	3180AGX-4U	3210AGX-4			
Grid Simulator, AC and/or DC Power Source, AC and/or DC Current Source. Electronic Load optional. AC Output Phase Modes (Form) 1, 2 or 3 1,	Modes of Operation									
Phase Modes (Form) 1, 2 or 3 Maximum Power (Total) 6 kW/kVA 3 kW/kVA 1 kW/kVA 1 kW/kVA 1 kW/kVA Per Phase 2 kW/kVA 3 kW/kVA 4 kW/kVA 5 kW/kVA 6 kW/kVA 7 kW/kVA Range* 0 - 350 Vix / 0 - 666 Vit. 001 001 001 001 Resolution 0.01 0.03% [500 to 1000 Hz < 1.0% [> 100 Hz < 1.5%	Grid Simulator, AC and/or	DC Power Source,	, AC and/or DC Cu	irrent Source. Elec	tronic Load optio	nal.				
Maximum Power (Total) 6 kW/kVA 9 kW/kVA 12 kW/kVA 15 kW/kVA 18 kW/kVA 21 kW/kVA Pare Phase 2 kW/kVA 3 kW/kVA 4 kW/kVA 5 kW/kVA 7 kW/kVA Range' 0 - 350 Vin / 0 - 666 Vi. 6606 Vi. 6606 Vi. 7 kW/kVA Resolution 0.01 $-$ 0.01 6606 Vi. 6606 Vi. Accuracy \pm 0.25% F.S $-$ 0.01% for 10% Line Change $-$ 0.01% for 10% Line Change $-$ 0.01% for 00% Line Change Load Regulation \pm 0.25% [500 to 1000 Hz < 1.0% [100 Hz < 0.3% [100 Hz < 0.3% [100 Hz < 0.3% [100 Hz < 1.0% [100 Hz < 1.5% [100 Hz < 0.3% [100 Hz < 0.3% [100 Hz < 1.0% [100 Hz < 1.5% [100 Hz < 0.3% [100 Hz < 0.3% [100 Hz < 1.2% (1.2\% (1.2\% (1.2\% (1.2\% (1.2\%	AC Output									
Per Phase Per Phase Range ² 2 kW/kVA 3 kW/kVA 4 kW/kVA 5 kW/kVA 6 kW/kVA 7 kW/kV 7 kW	Phase Modes (Form)	1, 2 or 3	1, 2 or 3	1, 2 or 3	1, 2 or 3	1, 2 or 3	1, 2 or 3			
Voltage 0 - 350 Vir / 0 - 666 Vit Renge* 0.01 Accuracy ±0.25% F.5 Harmonic Distortion < 100 Hz < 0.3% [100 Hz to 500Hz < 0.5% [500 to 1000 Hz < 1.0% [> 1000 Hz < 1.5%	Maximum Power (Total)	6 kW/kVA	9 kW/kVA	12 kW/kVA	15 kW/kVA	18 kW/kVA ¹	21 kW/kVA ¹			
Range ¹ 0.01 Resolution 0.01 Accuracy ± 0.25% F.5 Harmonic Distortion < 0.01% for 10% Line Change 1000 Hz < 1.0% > 1000 Hz < 1.0% > 1000 Hz < 1.0% > 1000 Hz < 1.5% Und Regulation ± 0.02% (CSC Mode) Tense Range 1000 Hz < 0.3% 5000 Hz < 1.0% > 1000 Hz < 1.0% > 126.0 A	Per Phase	2 kW/kVA	3 kW/kVA	4 kW/kVA	5 kW/kVA	6 kW/kVA	7 kW/kVA			
Resolution 0.01 Accuracy ± 0.25% F.5 Harmonic Distortion < 100 Hz < 0.3% [100 Hz to 500Hz < 0.5% [500 to 1000 Hz < 1.0%] > 1000 Hz < 1.5%	Voltage									
Accuracy ± 0.25% F.5 Harmonic Distrian (Vthd) R Load < 100 Hz < 0.3% 100 Hz to 500H < 0.5% 500 to 1000 Hz < 1.0% > 1000 Hz < 1.5%	Range ²	0 - 350 Vln / 0 - 606 Vll								
Harmonic Distortion < 100 Hz < 0.3% 100 Hz to 500Hz < 0.5% 500 to 1000 Hz < 1.0% > 1000 Hz < 1.5% Line Regulation $+ 0.02\%$ (CSC Mode) $+ 0.02\%$ (CSC Mode) Phase Angle Resolution $- 0.1^{\circ}$ $- 0.3^{\circ}$ Maximum RMS Current 0.1° $- 0.1^{\circ}$ 3 & 2 Phase modes 17.0 A 25.0 A 34.0 A 42.0 A 42.0 A 42.0 A 1 Phase mode 51.0 A 75.0 A 100.0 A 126.0 A 100.0 A	Resolution									
(Vthd) R Load < 100 H2 < 0.3% 100 H2 < 0.3% 100 H2 < 1.3% 5 1000 H2 < 1.3%		± 0.25% F.S								
		< 100		7 to 500H7 < 0 506	500 to 1000 Hz <	1 00/ \ \ 1000 H	- 1 50%			
Load Regulation ± 0.2% (CSC Mode) Phase Angle Resolution CSC 0 - 359.9° Phase Angle Resolution C.1° Maximum RMS Current CSC 0 - 359.9° Maximum RMS Current CSC 0 - 359.9° Maximum RMS Current CSC 0 - 359.9° Gurrent Crest Factor FSL 0 A 25.0 A 34.0 A 42.0 A 42.0 A 42.0 A Trequency Current Crest Factor G.2: 1 42:1 30.1 2.5:1 2.5:1 2.5:1 Resolution / Accuracy DC 0-1200.0 Hz 2.5:1 2.5:1 2.5:1 2.5:1 Phase Modes (Channels) 1,2 or 3		< 100	112 < 0.3% 100112			1.0%	. 1.J ⁷⁰			
Phase Angle Image Angle Resolution Phase Angle Resolution Image Angle Resolution Phase Angle Resolution Image Angle Resolution Start Phase modes 17.0 A 25.0 A 34.0 A 42.0 A 42.0 A 42.0 A 1 Phase modes 51.0 A 75.0 A 100.0 A 126.0 A <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>										
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Maximum RMS Current V 3 & 2 Phase modes 17.0 A 25.0 A 34.0 A 42.0 A 42.0 A 42.0 A 42.0 A 42.0 A 126.0 A	Phase Angle			Range - Phase	B, C: 0 - 359.9°					
3 & 2 Phase modes 17.0 A 25.0 A 34.0 A 42.0 A 42.0 A 42.0 A 1 Phase mode 51.0 A 75.0 A 100.0 A 126.0 A				0.1	1°					
1 Phase mode 51.0 A 75.0 A 100.0 A 126.0 A 126.0 A 126.0 A Current Crest Factor 6.2 : 1 4.2 : 1 3.0 : 1 2.5 : 1 2.5 : 1 2.5 : 1 Range 15.00 - 1200.0 Hz 25.1 2.5 : 1 2.5 : 1 2.5 : 1 Range 1.00 - 300.0 Hz 200.0 Hz 200.0 Hz 200.0 Hz 200.0 Hz Resolution / Accuracy 0.01 Hz / ± 0.01% 0.1 2 or 3 1, 2 or 3 1, 2 or 3 1, 2 or 3 Maximum Power (Total) 6 kW 9 kW 12 kW 15 kW 18 kW 21 kW Octputst 2 kW 3 kW 4 kW 5 kW 6 kW 7 kW Octputst Noise < 150 mV rms	Maximum RMS Current									
Current Crest Factor 6.2:1 4.2:1 3.0:1 2.5:1 2.5:1 2.5:1 Range Range Resolution / Accuracy DC Output ³ 15.00 - 1200.0 Hz 1.00 - 3000.0 Hz 5.5 5.5 Resolution / Accuracy DC Output ³ 1.2 or 3										
Frequency Isoo - 1200.0 Hz Range 15.00 - 1200.0 Hz Extended Range 1.00 - 3000.0 Hz Resolution / Accuracy 0.01 Hz / ± 0.01% DC Output ² 0.01 Hz / ± 0.01% DC Output ³ 1, 2 or 3 1, 2 or 3 1, 2 or 3 1, 2 or 3 Maximum Power (Total) 6 kW 9 kW 12 kW 15 kW 18 kW 21 kW Per Channel 2 kW 3 kW 4 kW 5 kW 6 kW 7 kW OUtput Noise < 150 mV rms		51.0 A	75.0 A	100.0 A	126.0 A	126.0 A	126.0 A			
Range 15.00 - 12000 Hz Extended Range International State	Current Crest Factor	6.2 : 1	4.2 : 1	3.0 : 1	2.5 : 1	2.5 : 1	2.5 : 1			
Extended Range 1.00 - 3000.0 Hz Resolution / Accuracy 0.01 Hz / ± 0.01 Hz DC Output * ***********************************	Frequency									
Resolution / Accuracy DC Ottput* 0.01 Hz /± 0.01% Decomposition of the term of the term of ter		15.00 – 1200.0 Hz								
DC Output³ Phase Modes (Channels) 1, 2 or 3 12 10 Re 10 1	Extended Range									
Phase Modes (Channels) 1, 2 or 3 1, 2 or 3 <td></td> <td></td> <td></td> <td>0.01 Hz /</td> <td>± 0.01%</td> <td></td> <td></td>				0.01 Hz /	± 0.01%					
Maximum Power (Total) 6 kW 9 kW 12 kW 15 kW 18 kW 21 kW Per Channel 2 kW 3 kW 4 kW 5 kW 6 kW 7 kW DC Offset <20 mV										
Per Channel 2 kW 3 kW 4 kW 5 kW 6 kW 7 kW DC Offset <20 mV										
DC Offset <20 mV Output Noise (DC – 300 kH2) < 150 mV rms			9 kW	12 kW		18 kW	21 kW			
Output Noise (DC - 300 kHz)< 150 mV rmsVoltage Range $- \pm 0.1^{\pm} + 50.0 \ Voc$ Resolution Accuracy $- \pm 0.25\% \ F.5$ Maximum DC Current 3 & 2 Phase modes $17.0 \ Abc$ $21.0 \ Abc$ $21.0 \ Abc$ $21.0 \ Abc$ $21.0 \ Abc$ 3 & 2 Phase modes $17.0 \ Abc$ $21.0 \ Abc$ $21.0 \ Abc$ $21.0 \ Abc$ $21.0 \ Abc$ 3 & 2 Phase modes $51.0 \ Abc$ $62.5 \ Abc$ A CInput $- \pm 0.45\% \ F.5$ Nominal Phase Current @ 400Vac $10 \ Arms$ $14 \ Arms$ $19 \ Arms$ $24 \ Arms$ $29 \ Arms$ $34 \ Arms$ 400Vac $- \pm 0.99\% \ O.99$ $- 0.99$ $- 0.99$ $- 0.99$ $- 0.99$ $- 0.99$ Nominal Phase Current @ 400Vac $8 \ Arms$ $12 \ Arms$ $16 \ Arms$ $20 \ Arms$ $24 \ Arms$ $28 \ Arms$ 1put Power Factor $- 0.99$ $- 0.99$ $- 3.09$ $- 9.09$ $- 9.09$ $- 9.99$ $- 9.99$ Efficiency $- 0.99$ $- 3.090$ $- 3.00 \ VLN / 0.606 \ VL / ± 0.25\% \ F.5$ $- 3.00 \ VLN / 0.606 \ VL / \pm 0.25\% \ F.5$ $- 3.00 \ VLN / 0.606 \ VL / \pm 0.5\% \ F.5$ $- 3.00 \ VLN / 0.606 \ VL / \pm 0.5\% \ F.5$ Power ^3 $2.00 \ A \pm 0.5\% \ F.5$ $3.00 \ A \pm 0.5\% \ F.5$ $- 3.00 \ VLN / 0.606 \ VL / \pm 0.5\% \ F.5$ $- 3.00 \ VL / \pm 0.5\% \ F.5$ $- 3.00 \ VL / \pm 0.5\% \ F.5$ Power ^3 $2.00 \ A \pm 0.5\% \ F.5$ $3.00 \ A \pm 0.5\% \ F.5$ $- 3$			3 kW	4 kW	5 kW	6 kW	7 kW			
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$										
Voltage Range 0 - ±50 Vbc Resolution 0.1 Accuracy 0.1 Accuracy 0.1 Maximum DC Current 10.1 3 & 2 Phase modes 17.0 Abc 21.0 Abc 21.		< 150 mV rms								
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Resolution 0.5 Intermediate In										
Accuracy Image: Ima										
Maximum DC Current 3 & 2 Phase modes 17.0 ADC 21.0 ADC 21										
3 & 2 Phase modes 17.0 Abc 21.0 Abc 62.5 Abc <td></td> <td></td> <td></td> <td>± 0.25</td> <td>% F.S</td> <td></td> <td></td>				± 0.25	% F.S					
1 Phase mode 51.0 ADC 62.5 ADC 62.5 ADC 62.5 ADC 62.5 ADC 62.5 ADC AC Input Input Voltage Range 380Vac – 480V + ± 10%, 4 Wire, L1, L2, L3 and PE Imput Voltage Range			I	1						
AC Input Input Voltage Range 380Vac – 480Vac ± 10%, 4 Wire, L1, L2, L3 and PE Frequency 47 - 63 Hz Colspan="4">Colspan="4"Colspan="4">Colspan="4"Colspan="4"Colspan="4">Colspan="4"Col										
Input Voltage Range 380Vac – 480Vac ± 10%, 4 Wire, L1, L2, L3 and PE (Colspan="5">(Colspan="5">(Colspan="5")) Frequency Colspan="5">(Colspan="5") (Colspan="5") Nominal Phase Current @ 10 Arms 14 Arms 19 Arms 24 Arms 29 Arms 34 Arms 400Vac 8 Arms 12 Arms 16 Arms 20 Arms 24 Arms 28 Arms 480Vac 8 Arms 12 Arms 16 Arms 20 Arms 24 Arms 28 Arms 10 put Power Factor >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.90 <t< td=""><td></td><td>51.0 Adc</td><td>62.5 Adc</td><td>62.5 Adc</td><td>62.5 Adc</td><td>62.5 Adc</td><td>62.5 Adc</td></t<>		51.0 Adc	62.5 Adc	62.5 Adc	62.5 Adc	62.5 Adc	62.5 Adc			
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Nominal Phase Current @ 400Vac 10 Arms 14 Arms 19 Arms 24 Arms 29 Arms 34 Arms Nominal Phase Current @ 480Vac 8 Arms 12 Arms 16 Arms 20 Arms 24 Arms 28 Arms 10 put Power Factor >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 Efficiency >0.90 >0.90 >0.90 >0.90 >0.90 >0.90 Measurements (Range / Accuracy) 340/4.05% FS. 340/4.05% FS. 340/4.05% FS. 340/4.05% FS. 340/4.05% FS. Voltage RMS >0.90			380Vac – 480Va		.1, L2, L3 and PE					
400VacImage: Nominal Phase Current @ 480Vac8 Arms12 Arms16 Arms20 Arms24 Arms28 Arms480Vac										
Nominal Phase Current @ 480Vac 8 Arms 12 Arms 16 Arms 20 Arms 24 Arms 28 Arms Input Power Factor >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.90		10 Arms	14 Arms	19 Arms	24 Arms	29 Arms	34 Arms			
480Vac Input Power Factor >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.90 <td></td> <td>0. 4</td> <td>12 Auros</td> <td>16 Auros</td> <td>20 4</td> <td>24 America</td> <td>20 America</td>		0. 4	12 Auros	16 Auros	20 4	24 America	20 America			
Input Power Factor >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 >0.99 Efficiency >0.90 >0.9		8 Arms	12 Arms	16 Arms	20 Arms	24 Arms	28 Arms			
Efficiency >0.90 >0.90 >0.90 >0.90 >0.90 Measurements (Range / Accuracy) Voltage RMS - 350 VLN / 0-606 VLL / ± 0.25% F.S. VL Veltage RMS Veltage RM		> 0.00	> 0.00	> 0.00	> 0.00	> 0.00	> 0.00			
Measurements (Range / Accuracy)Voltage RMS $0 - 350 V_{LN} / 0.606 V_{LL} \pm 0.25\% F.S.$ Current RMS ³ 17.0 A/±0.5% F.S. $25.0 A/±0.5\% F.S.$ $42.0 A/±0.5\% F.S.$ Power ³ $2 kW/\pm 1.5 \% F.S.$ $3 kW/\pm 1.5 \% F.S.$ $4 kW/\pm 1.5 \% F.S.$ $4 kW/\pm 1.5\% F.S.$ Scope Function $Sample Rate: 54932.47 Hz / Window: 1024 Samples / Bandwidth: 3000 HzTransient FunctionsProgramming200 Steps / 400 Segments, LIST, PULSE & STEP Modes, Frequency, Volt AC, Volt DC, Waveform, RampTime, Dwell Time. Time range: 0.1 - 1000000.0 ms, Time resolution 0.2 ms$										
Voltage RMS $0 - 350 V_{LN} / 0.606 V_{LL} \pm 0.25\% F.S.$ Current RMS3 $17.0 A / \pm 0.5\% F.S.$ $25.0 A / \pm 0.5\% F.S.$ $34.0 A / \pm 0.5\% F.S.$ $42.0 A / \pm 0.5\% F.S.$ Power3 $2 kW / \pm 1.5 \% F.S.$ $3 kW / \pm 1.5 \% F.S.$ $4 kW / \pm 1.5 \% F.S.$ $5 kW / \pm 1.5 \% F.S.$ $6 kW / \pm 1.5 \% F.S.$ Scope Function $Sample Rate: 54932.47 Hz / Window: 1024 Samples / Bandwidth: 3000 HzTransient FunctionsProgramming200 Steps / 400 Segments, LIST, PULSE & STEP Modes, Frequency, Volt AC, Volt DC, Waveform, RampTime, Dwell Time. Time range: 0.1 - 1000000.0 ms, Time resolution 0.2 ms$			>0.90	>0.90	>0.90	>0.90	>0.90			
Current RMS ³ 17.0 A/±0.5% F.S. 25.0 A/±0.5% F.S. 34.0 A/±0.5% F.S. 42.0 A/±0.5% F.S. Power ³ 2 kW/±1.5 % F.S. 3 kW/±1.5 % F.S. 4 kW/±1.5 % F.S. 5 kW/±1.5 % F.S. 6 kW/±1.5 % F.S. 7 kW/±1.5 % F.S. Scope Function Sample Rate: 54932.47 Hz/Window: 1024 Samples / Bandwidth: 3000 Hz 1024 Samples / Bandwidth: 3000 Hz Transient Functions 200 Steps / 400 Segments, LIST, PULSE & STEP Modes, Frequency, Volt AC, Volt DC, Waveform, Ramp Time, Dwell Time. Time range: 0.1 - 1000000.0 ms, Time resolution 0.2 ms -		ccuracy)		2 - 2 = 0						
Power ³ 2 kW/±1.5 % F.S. 3 kW/±1.5 % F.S. 4 kW/±1.5 % F.S. 5 kW/±1.5 % F.S. 6 kW/±1.5 % F.S. 7 kW/±1.5 % F.S. Scope Function Sample Rate: 54932.47 Hz/Window: 1024 Samples / Bandwidth: 3000 Hz Transient Functions Programming 200 Steps / 400 Segments, LIST, PULSE & STEP Modes, Frequency, Volt AC, Volt DC, Waveform, Ramp Time, Dwell Time. Time range: 0.1 - 1000000.0 ms, Time resolution 0.2 ms										
Scope Function Sample Rate: 54932.47 Hz / Window: 1024 Samples / Bandwidth: 3000 Hz Transient Functions Programming 200 Steps / 400 Segments, LIST, PULSE & STEP Modes, Frequency, Volt AC, Volt DC, Waveform, Ramp Time, Dwell Time. Time range: 0.1 - 10000000.0 ms, Time resolution 0.2 ms Steps / 400 Segments, LIST, PULSE & STEP Modes, Frequency, Volt AC, Volt DC, Waveform, Ramp										
Transient Functions Programming 200 Steps / 400 Segments, LIST, PULSE & STEP Modes, Frequency, Volt AC, Volt DC, Waveform, Ramp Time, Dwell Time. Time range: 0.1 - 10000000.0 ms, Time resolution 0.2 ms		∠ KVV / ± 1.3 % F.S.					/KVV/±1,3%F.3.			
Programming 200 Steps / 400 Segments, LIST, PULSE & STEP Modes, Frequency, Volt AC, Volt DC, Waveform, Ramp Time, Dwell Time. Time range: 0.1 - 10000000.0 ms, Time resolution 0.2 ms			Sample Rate: 549	22.4/ FIZ/ WINDOW:	1024 Samples / Bar	iuwiuu 1: 3000 MZ				
Time, Dwell Time. Time range: 0.1 - 10000000.0 ms, Time resolution 0.2 ms		200 Stone / 400 S	ogmonte LICT DI				oform Daras			
Execution Run from step # to step #, Run, Step, Restart, Stop							eionn, kamp			
	Execution	Run from step #	to step #, Run, Ste	p, Restart, Stop						

Technical Specifications

Note 1: Maximum Power rating is reduced below 40Hz on 3180AGX and 3210AGX models.

Note 2: Extended Voltage Range: 0 - 365 VLN / 0 - 632 VLL, with VTHD < 1.0% @ 50~60Hz

Note 3: Measurement range is times three in single phase mode.

Note 4: Voltage Range values shown is for Source Mode



Technical Specifications

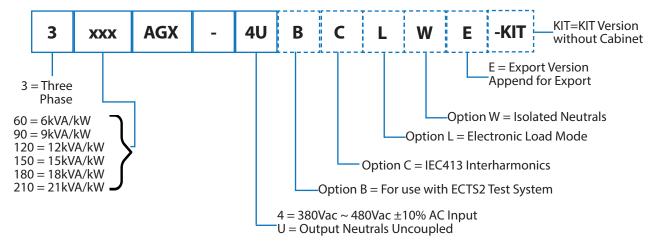
PARAMETERS / FUNCTIONS	SPECIFICATIONS						
Remote Control Interfaces	' 						
Standard Interfaces	USB Type B, LAN, GPIB / IEEE488, RS232, all on rear panel						
LAN / Ethernet Interface	LXI compliant, Ethernet, RJ45, TCP/IP Protocol, Telnet Protocol Command Line						
GPIB Functions	IEEE488,1, IEEE488.2 (2003 incl., NI HS488) IEC 60488-1, IEC 60488-2 (2004) Functions: SH1, AH1, T6, L3, SR1, RL1, DC1, DT1						
WIFI (Optional)	Optional external USB connected WIFI adapter available.						
ModBus TCP (Optional)	Uses Power Source's LAN interface to connect to CANopen Fieldbus						
CAN/CAN-FD (Optional)	CAN-FD (Optional) Uses USB to CAN-FD adapter to connect to CAN network						
Analog I/O (DB25 Connector Rear Panel)							
Analog Inputs (4)	AI1, AI2, AI3, AI4 User defined functions						
Range, Accuracy, Impedance	-10 to +10V						
Analog Outputs (4)	AO1, AO2, AO3, AO4	User defined measu	rement functions				
Range, Accuracy, Impedance	0 - 10Vdc for 0 - F.S.	± 0.1% F.S. into 5kW	< 10 Ohm				
Digital I/O (DB25 Connector Rear Panel)							
Digital Inputs - Fixed (3)	Remote Inhibit, Transie	ent Trigger, Phase Sync	2				
Digital Inputs - User (3)	DI1, DI2, DI3, Functions are user defined						
Digital Outputs - Open Collector (2)	External Relay Control to change output FORM, Relay Control for T Option						
Digital Outputs - TTL, Fixed (2)	Output Relay / Transient / Function Strobe / Phase Sync						
Digital Outputs - TTL, User (2)	D01, D02						
Output Voltage Levels	Low < 0.4V, High > 4.6V						
Environmental							
Cooling	Variable speed fan coo	led, front intake, rear	exhaust				
Energy Saving Modes	Standby Mode:	Output Stages OFF	Sleep Mode:	All power stages OFF			
Temperature	Operating:	0 to 40 °C 32 to 104 °F	Storage:	-20 to 70 °C -4 to 158 °F			
Humidity & Altitude	< 80%, non-condensing 2000 m / 6500 feet						
Miscellaneous System Features			,				
Front Panel Display	Full Color, Touch LCD Display, 4.3" Diagonal size, 480 x 272 Pixels resolution						
USB Ports	2 on Front Panel, 1 on Rear Panel, All Type A						
SD Card	32 GB max. Capacity						
Video Output	Monitor Out, Front Panel						
Dimensions & Weights							
Chassis Size H x W x D	7.0" x 17.0" x 25.0" / 178 x 432 x 635 mm Shipping: 20" x 27" x 38" / 508 x 686 x 965 mm						
Weight Single 4U Height Unit	Net:	111.2 lbs. / 50.4 kg	Shipping:	151 lbs / 68.5 kg			
Regulatory Compliance							
Safety	IEC 61010-1:2010 (Editi	ion 3)					
EMC - Emissions / Immunity	EN 55011:2009+A1:201	I0 / EN 61000-4-2, -4-3	3, -4-4, -4-5, -4-6, -4-8 a	and EN 61000-4 -11			
Product Category	EN 61326-1:2013 (Measurement, Laboratory and Control Equipment)						
Agency Approvals	Agency Approvals CE Mark						



Ordering Information

AGX Series Model Number Encoder:

Note: Solid outlined fields must be specified. Dashed outlined fields are optional.



NOTE: 4U indicates that the shorting bar for output neutrals will be installed on the units by default. If Option W is selected, the units will be shipped with shorting bar for neutrals removed and provided in the ship kit instead.

Order Example: 3210AGX-4CLWTypical Delivery ItemsAvailable Accessories• Bench Model, 21 kVA, 3-Phase, AC & DC
Regenerative Power Source with USB,
RS232, LAN, GPIB & AUX I/O• Power Source
• Rack Mount Handles
• Certificate of Compliance• Output shorting adapter for single
phase output mode use. P/N 160086
(not for W)

- Paralleling Cable, 1 Ft. (Included with Aux NC models). P/N 778036
- Rack slides. P/N 703251

Auxiliary Models (No controller) Order Example: 3210AGX-4UNC

Software Options

Test Sequences

- IEC Test Suite Includes IEC 61000-4-11p, IEC 61000-4-14, IEC 61000-4-17, IEC 61000-4-27p, IEC 61000-4-28, IEC 61000-4-29p and IEC 61000-4-34
- IEC 61000-4-13 (Option C)
- MIL-STD 1275 Rev E
- MIL-STD 1399-300B & -300-1 US
- DoD, Shipboard Power, AC Power Groups
- IEEE 1547.1-2020
- Semi-F47-0706
- KS C 9610-4-11, KS C 9610-4-29

Avionics Test Sequences

- ABD0100.1.8 Airbus A380, AC & DC Power Groups
- ABD0100.1.8.1 Airbus A350, AC & DC Power Groups
- AMD24C Airbus A400M, AC & DC Power Groups
- Boeing 787B3-0147 B787, AC & DC Power Groups
- MIL-STD704 US DoD, AC & DC Power Groups
- RTCA-DO160 Section 16, AC & DC Power Groups

Test Sequence Options require use of the standard SmartSource Suite via LAN or USB. Contact factory for details.



Innovate the Way You Test

by making it simpler, safer, more productive, and sustainable.



Global Sales & Service Centers



The Power of Expertise

About Pacific Power Source

Founded in 1971, Pacific Power Source is an industry leading manufacturer of AC and DC power test solutions. Our reputation as a market and technology leader stems from our best-in-class products, commitment to R&D investments, and exceptional worldwide customer support.

Pacific Power Source is a PPST Solutions Company.

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