

Programmable DC Power Source 6210 Series



Programmable DC Power Source Model 6210 Series 1000W

KEY FEATURES

- Built-in power factor correction circuit provides input power factor of over 0.98 minimum for full load.
- Thermal shutdown.
- Optional internal computer control (GPIB).
- Standard overvoltage protection (OVP).

High performance to meet critical testing need, the Chroma 6210 series programmable DC power source incorporates modern power factor correction circuitry to increase the input power factor to more than 0.98 to meet



IEC regulations, thus reduces the input current requirement and raises the efficiency over 80%. Isolated interface to isolate analog remote programming controls either the unit's output voltage or current to obtain full output power with lower noise and higher precision.

This 6210 series of constant-voltage, constant-current power supplies is available in power ranges 1000W (in 3 1/2 inches of vertical rack space, half-rack cases). All models have 10-turn voltage and current controls that vary the voltage (7.5V-600V) and current (1.6A-130A) outputs from zero to the maximum rated values. Crossover from constant voltage to constant current operation occurs automatically when the load current exceeds the control settings, another provides an adjustable current limit, allowing user to the current limit without your having to short the output.

High density and precision of 6210 series also include the remote controller via IEEE-488 interface designed as a plug-in card to change the unit in seconds into a computer controlled system power source. All the outputs on these models are protected against overload and over-temperature damage. Protection circuits prevent output

voltage overshoot when supply is turned on and off. It can be used for R&D design characterization, production testing, and QA verification of commercial, industrial, and aerospace electronic products.

ORDERING INFORMATION

- 6210-7.5:** DC Power Source 7.5V/130A/ 975W
- 6210-20:** DC Power Source 20V/50A/1000W
- 6210-40:** DC Power Source 40V/25A/1000W
- 6210-60:** DC Power Source 60V/18A/1080W
- 6210-100:** DC Power Source 100V/10A/ 1000W
- 6210-150:** DC Power Source 150V/7A/ 1050W
- 6210-300:** DC Power Source 300V/3.5A/ 1050W
- 6210-600:** DC Power Source 600V/1.6A/ 960W
- A621001:** Isolated Programming Interface A621002: GPIB Interface
- A621003:** RS-232C Interface for Model 6206/6210 Series
- A621006:** Rack Mounting Kit for Model 6206/6210 Series
- A621007:** Instrument Driver for Computer for Model 6206/6210 Series

Special model upon request

SPECIFICATIONS

Model	6210-7.5	6210-20	6210-40	6210-60	6210-100	6210-150	6210-300	6210-600
Output Ratings								
Output Voltage	0-7.5V	0-20V	0-40V	0-60V	0-100V	0-150V	0-300V	0-600V
Output Current	0-130A	0-50A	0-25A	0-18A	0-10A	0-7A	0-3.5A	0-1.7A
Output Power	975W	1000W	1000W	1080W	1000W	1050W	1050W	1020W
Line Regulation ²								
Voltage (0.01% of Vmax+2mV)	2.75mV	4mV	6mV	8mV	12mV	17mV	32mV	62mV
Current (0.01% of Imax+1mA)	14mA	6mA	3.5mA	2.8mA	2mA	1.7mA	1.35mA	1.2mA
Load Regulation ³								
Voltage (0.01% of Vmax+2mV)	2.75mV	4mV	6mV	8mV	12mV	17mV	32mV	62mV
Current (0.05% of Imax+1mV)	66mA	26mA	13.5mA	10mA	6mA	4.5mA	2.75mA	1.8mA
Meter Accuracy								
Voltage (1% of Vmax+1 count)	0.09V	0.3V	0.5V	0.7V	1.1V	1.6V	4V	7V
Current (1% of Imax+1 count)	1.4A	0.6A	0.35A	0.19A	0.11A	0.08A	0.05A	0.03A
Output Noise & Ripple (V)								
rms	5mV	5mV	5mV	10mV	10mV	20mV	30mV	80mV
p-p (0-20MHz)	50mV	50mV	75mV	75mV	100mV	150mV	250mV	500mV
Stability ⁴								
Voltage (0.05% of Vmax)	3.75mV	10mV	20mV	30mV	50mV	75mV	150mV	300mV
Current (0.05% of Imax)	65mA	25mA	12.5mA	9mA	5mA	3.5mA	1.75mA	0.80mA
Temperature Coefficient ⁵								
Voltage (0.02% of V max/°C)	1.5mV	4mV	8mV	12mV	20mV	30mV	60mV	120mV
Current (0.03% of I max/°C)	39mA	15mA	7.5mA	5.4mA	3mA	2.1mA	1.1mA	0.48mA
Maximum Remote Sense Line Drop Compensation ⁶								
	3V/line	5V/line	5V/line	5V/line	5V/line	5V/line	5V/line	5V/line
OVP Adjustment Range (5% to 110% of Vmax)								
	0.375-8.25V	1-22V	2-44V	3-66V	5-110V	7.5-165V	15-330V	30-660V

1 Specifications are warranted over a temperature range of 0-40°C with default local sensing. From 40 to 70°C, derate 2% per °C. Numbers posted are maximum values for model-dependent specifications.

2 For input voltage variation over the AC input voltage range, with constant rated load.

3 For 0-100% load variation, with constant nominal line voltage.

4 Maximum drift over 8 hours with constant line, load, and temperature, after 30 minutes warm-up

5 Change in output per °C change in ambient temperature, with constant line and load

6 Line drop is subtracted from total voltage available at supply output

AC Input: 85-250Vac, 47-63Hz; Power factor corrected. 13A max @100Vac, 11A max @120Vac, 6A max@220Vac. Derate maximum output power to 900 Watts for AC input less than 95V

Power Factor: 0.98 minimum for full load

Input Harmonic Distortion: Current harmonics meet IEC1000-3-2 limits

Maximum Voltage Differential from Output to Safety Ground: 600Vdc

Storage Temperature Range: -40 to +85°C

Humidity Range: 0 to 80% RH Non-condensing

Time Delay from power on until output stable: 3 seconds maximum

Voltage Mode Transient Response Time: 1ms for output voltage to recover within 0.1% of previous level after step change in load current of up to 50% of rated output

Switching Frequency: Nominal 125KHz (250KHz output ripple)

Typical Efficiency: >80%

Remote Start/Stop and Interlock: TTL Compatible Input, selectable logic

Remote Analog Programming (full scale input): Voltage: 0-5K, 0-10k resistances; 0-5V, 0-10V sources. Current: 0-5k, 0-10k resistances; 0-5V, 0-10V sources

Remote Monitoring: 0 to full scale output, 1% accuracy Voltage: 0-5V, 0-10V monitor

Current: 0-5V, 0-10V monitor

Front Panel Control: 10-turn voltage and current potentiometers

Front Panel Voltage Control Resolution: 0.02% of Vmax

Weight: Approx. 8.2 Kgs (18 lbs)

Agency Approvals: CSA, CE pending

Dimension Size (WxHxD): 214.6x87x410 mm