

Programmable DC Power Supply 6210 Series

Power Supply Test Equipment



Programmable DC Power Supply 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-tempera-

ture 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 Supply 7.5V/130A/975W
- 6210-20** : DC Power Supply 20V/50A/1000W
- 6210-33** : DC Power Supply 33V/33A/1089W
- 6210-40** : DC Power Supply 40V/25A/1000W
- 6210-60** : DC Power Supply 60V/18A/1080W
- 6210-100** : DC Power Supply 100V/10A/1000W
- 6210-150** : DC Power Supply 150V/7A/1050W
- 6210-300** : DC Power Supply 300V/3.5A/1050W
- 6210-600** : DC Power Supply 600V/1.6A/960W
- A621001** : Isolated Programming Interface
- A621002** : GPIB Interface for Model 6210 Series
- A621003** : RS-232 Interface for Model 6210 Series
- A621006** : Rack Mounting Kit for Model 6210 Series

SPECIFICATIONS¹

Model	6210-7.5	6210-20	6210-33	6210-40	6210-60	6210-100	6210-150	6210-300	6210-600
Output Ratings									
Output Voltage	0-7.5V	0-20V	0-33V	0-40V	0-60V	0-100V	0-150V	0-300V	0-600V
Output Current	0-130A	0-50A	0-33A	0-25A	0-18A	0-10A	0-7A	0-3.5A	0-1.7A
Output Power	975W	1000W	1089W	1000W	1080W	1000W	1050W	1050W	1020W
Line Regulation²									
Voltage	1mV	1mV	1mV	1mV	1mV	1.5mV	3mV	10mV	15mV
Current	5mA	2mA	1mA	1mA	1mA	1mA	0.5mA	0.5mA	0.5mA
Load Regulation³									
Voltage	1.5mV	1.5mV	1.5mV	1.5mV	1.5mV	1.5mV	4mV	10mV	20mV
Current	15mA	15mA	8mA	7mA	4mA	3mA	3mA	2.5mA	2.5mA
Meter Accuracy									
Voltage (0.5% of Vmax+1 count)	0.05V	0.2V	0.3V	0.3V	0.7V	1.1V	1.6V	4V	7V
Current (0.5% of Imax+1 count)	0.8A	0.4A	0.3A	0.3A	0.19A	0.11A	0.08A	0.05A	0.03A
Output Noise & Ripple (V)									
rms	7.5mV	5mV	5mV	5mV	5mV	5mV	7.5mV	20mV	60mV
p-p (0-20MHz)	50mV	50mV	50mV	50mV	50mV	50mV	75mV	100mV	300mV
Stability⁴									
Voltage (0.05% of Vmax)	3.75mV	10mV	16.5mV	20mV	30mV	50mV	75mV	150mV	300mV
Current (0.5% of Imax)	130mA	50mA	33mA	25mA	18mA	10mA	7mA	3.5mA	1.7mA
Temperature Coefficient⁵									
Voltage (0.02% of V max/°C)	1.5mV	4mV	6.6mV	8mV	12mV	20mV	30mV	60mV	120mV
Current (0.03% of I max/°C)	39mA	15mA	9.9mA	7.5mA	5.4mA	3mA	2.1mA	1.1mA	0.48mA
Maximum Remote Sense Line Drop Compensation⁶									
OVP Adjustment Range (5% to 110% of Vmax)	0.375-8.25V	1-22V	1.65-36.3V	2-44V	3-66V	5-110V	7.5-165V	15-330V	30-660V

1 Specifications indicate typical performance at 25°C±5°C, nominal line input of 120 Vac.

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: 4 seconds maximum

Voltage Mode Transient Response Time: 1ms for output voltage to recover within 0.5% 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. 6.4 Kgs (14 lbs)

Agency Approvals: CSA, CE, UL

Dimension Size (WxHxD): 216x86.4x472.2 mm