Programmable DC Power Source

Model 6206 Series

600W

KEY FEATURES

- Operates from a standard 115Vac 15A outlet with internal power factor correction.
- Thermal shutdown.
- Optional internal computer control (GPIB).
- Standard overvoltage protection (OVP).

C22.2 No. 1010.1-92

High performance to meet critical testing need, the Chroma 6206 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 6206 series of constant-voltage, constant-current power supplies is available in power ranges 600W (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 (1A-80A) 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 you set the current limit without your having to short the output.

High density and precision of 6206 series also includes 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

6206-7.5: DC Power Source 7.5V/80A/600W
6206-20: DC Power Source 20V/30A/600W
6206-40: DC Power Source 40V/15A/600W
6206-60: DC Power Source 60V/10A/600W
6206-100: DC Power Source 100V/6A/600W
6206-150: DC Power Source 150V/4A/600W
6206-300: DC Power Source 300V/2A/600W
6206-600: DC Power Source 600V/1A/600W
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 [1]

Model	6206-7.5	6206-20	6206-40	6206-60	6206-100	6206-150	6206-300	6206-600
Output Ratings								
Output Voltage	0-7.5V	0-20V	0-40V	0-60V	0-100V	0-150V	0-300V	0-600V
Output Current	0-80A	0-30A	0-15A	0-10A	0-6A	0-4A	0-2A	0-1A
Output Power	600W	600W	600W	600W	600W	600W	600W	600W
Line Regulation [2]								
Voltage (0.01% of Vmax+2mV)	2.75mV	4mV	6mV	8mV	12mV	17mV	32mV	62mV
Current (0.01% of Imax+1mA)	9mA	4mA	2.5mA	2mA	1.6mA	1.4mA	1.2mA	1.1mA
Load Regulation [3]								
Voltage (0.01% of Vmax+2mV)	2.75mV	4mV	6mV	8mV	12mV	17mV	32mV	62mV
Current (0.05% of Imax+1mA)	41mA	16mA	8.5mA	6mA	4mA	3mA	2mA	1.5mA
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)	0.9A	0.4A	0.16A	0.11A	0.07A	0.05A	0.03A	0.02A
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
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)	40mA	15mA	7.5mA	5mA	3mA	2mA	1mA	0.5mA
Temperature Coefficient [5]								
Voltage (0.02% of Vmax/°C)	1.5mV	4mV	8mV	12mV	20mV	30mV	60mV	120mV
Current (0.03% of Imax/°C)	24mA	9mA	4.5mA	3mA	1.8mA	1.2mA	0.6mA	0.3mA
Maximum Remote Sense								
Line Drop Compensation [6]	3V/line	5V/line	5V/line	5V/line	5V/line	5V/line	5V/line	5V/line

1 Specifications are warranted over a temperature range of 0-40°C with default local sensing. From 40-70°C, derate 2% per°C. Numbers posted are maximum values for model-dependent specifications. Specifications subject to change without notice.
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 warmup
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. 7.5A max. @100Vac, 6.3A max. @120Vac, 3.5A max. @220Vac.
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: 0-80% 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
AC Input Connector Type: IEC 320 15A/250V
Front Panel Control: 10-turn voltage and current potentiometers
Agency Approvals: CSA, CE pending
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 Voltage Control Resolution: 0.02% of Vmax
Weight: Approx. 8.2 Kgs (18 lbs)
Dimension Size (WxHxD): 214.6x87x410 mm