CHROMA

61502

The Chroma 61502 is a high-performance programmable AC/DC power source designed for simulating various power line conditions and measuring electrical parameters. Delivering up to 1000 VA of AC power and 500 W of DC power, it is an essential instrument for R&D, QA, and production testing of electronic products.

SPECIFICATIONS

General

Interfaces	GPIB, RS-232, Analog Programming Interface (APG)
Display	LCD Graphic Display

Physical

Power Supply	90 - 250 VAC, single-phase, 47 - 63 Hz
Operating Temperature	0 to 40 °C °C
Dimensions (W×H×D)	425 × 133 × 503 mm mm
Weight	24 kg

AC Output Specifications

Maximum AC Power Rating	1000 VA
Output Phase Configuration	Single Phase
AC Voltage Ranges	150 V / 300 V
Maximum RMS Current (Low Range, 150V)	8 A
Maximum RMS Current (High Range, 300V)	4 A
Maximum Peak Current (Low Range, 150V)	48 A
Maximum Peak Current (High Range, 300V)	24 A
Frequency Range	DC, 15 Hz - 1000 Hz
Voltage Line Regulation	0.1%
Voltage Load Regulation	0.2%
Total Harmonic Distortion (THD)	< 0.3% at 50/60 Hz (linear load)

DC Output Specifications

Maximum DC Power Rating	500 W
DC Voltage Ranges	212 V / 424 V
Maximum DC Current (Low Range, 212V)	4 A
Maximum DC Current (High Range, 424V)	2 A

Measurement & Readback

Measurement & Readback Parameters	Voltage (RMS, Peak, DC), Current (RMS, Peak, DC), Power (Active, Apparent, Reactive), Power Factor, Crest Factor

Protection Features

Protection Features	Overvoltage (OVP), Overcurrent (OCP), Overpower (OPP), Overtemperature (OTP), Fan Fail

Input Power Requirements

Input Phase Configuration	Single Phase

Physical & Environmental Specifications

Rack Height Units	3U

Programming Resolution

Voltage Programming Resolution (AC)	0.1 V
Frequency Programming Resolution	0.01 Hz (15.00 - 99.99 Hz), 0.1 Hz (100.0 - 999.9 Hz)

Phase Angle Control

Phase Angle Programming Range	0 to 360°
Phase Angle Programming Resolution	0.1°

Programming Accuracy

AC Voltage Programming Accuracy (45 - 65 Hz)	0.15% of setting + 0.15% of F.S.
AC Voltage Programming Accuracy (15 - 1000 Hz)	0.3% of setting + 0.3% of F.S.
Frequency Programming Accuracy	0.1%

Measurement Accuracy

AC Voltage Measurement Accuracy (45 - 65 Hz)	0.1% of rdg + 0.1% of F.S.
AC Voltage Measurement Accuracy (15 - 1000 Hz)	0.3% of rdg + 0.3% of F.S.
DC Voltage Measurement Accuracy	0.1% of reading + 0.1% of range
Power Measurement Accuracy (45 Hz - 65 Hz)	0.2% of reading + 0.2% of range
Power Factor Measurement Range	0.000 - 1.000
Crest Factor Measurement Range	0.00 - 9.99
Harmonic Current Measurement	Up to 40th order

Output Performance

RMS Current Crest Factor	6

Power Input

Maximum AC Input Current	15 A max. @ 90 VAC, 7.5 A max. @ 180 VAC
AC Input Frequency Range	47 to 63 Hz

Environmental

Storage Temperature	-40 to 85 °C
Operating Humidity	0 to 90% RH (non-condensing)

General Features

Remote Sense Compensation	5 V (maximum voltage drop per line)

Control & Interfaces

External Analog Programming (APG) Input	0 to 5 V or 0 to 10 V for 0 to Full Scale output

Output Specifications

DC Voltage Programming Accuracy	0.2% of reading + 0.2% of range
Voltage Programming Resolution	0.1 V
Waveform Synthesizer Types	Sine, Square, Clipped-Sine, Arbitrary
Arbitrary Waveform Storage	30 waveforms

Transient Simulation

Transient Simulation Modes	LIST, PULSE, STEP
Inter-Harmonic Sweep Frequency Range	15 Hz - 1000 Hz

TECHNOLOGY

Switch-mode AC Power Source

APPLICATIONS

Power line disturbance simulation, harmonic distortion testing, and AC/DC power testing