

MODEL 61700 SERIES

KEY FEATURES

- Power:
 - 1500VA, 3Ø (61701)
 - 3000VA, 3Ø (61702)
 - 4500VA, 3Ø (61703)
 - 6000VA, 3Ø (61704)
 - 12000VA, 3Ø (61705)
- Voltage: 0 to 150V / 0 to 300V
Frequency: 15 to 1.2kHz
Phase angle: 0 to 360° Programmable
- Built-in PFC, provides input power factor over 0.98
- Advanced PWM technology delivers high power density in a compact rack-mountable package
- Built-in output isolation relays
- AC+DC output mode
- Programmable slew rate setting for changing voltage
- Turn on, turn off phase angle control
- User-definable power-on status
- Comprehensive measurement capability: V, Irms, Ipk, I inrush, P, PF, CF of current etc.
- Programmable r.m.s. current limit
- Full protection: OP, OC, OV and OT protection
- Optional GPIB and RS-232C interface
- Easy-to-use software for operation



PROGRAMMABLE AC POWER SOURCE MODEL 61700 SERIES

The Chroma Programmable AC Power Source model 61700 series delivers pure, 5-wire, 3-phase AC power. Unlike traditional 3-phase AC sources, it includes low power rating models at very low cost. Users can program voltage and frequency, and measure the critical characteristics of the output on its LCD display. It provides the ability to simulate all kinds of UUT input conditions to be utilized in R&D and QA. It is also suitable for commercial applications from laboratory testing to mass production.

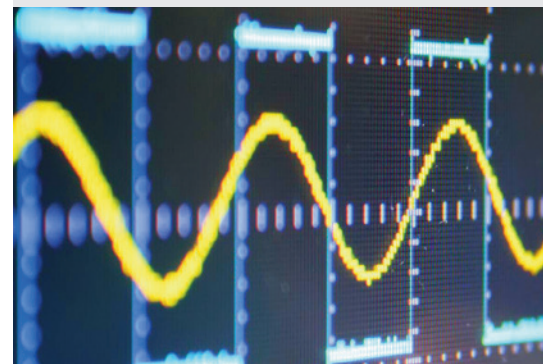
The 61700 series AC Source supplies output voltages from 0 to 300VAC and can be set individually for each phase. Users also can set the phase angle from 0° to 360°. These kinds of functions allow the 61700 series to simulate unbalanced 3-phase power. With a wide output frequency range, from 15 to 1200Hz, it is suitable for avionics applications. The AC+DC mode extends the output function to simulate abnormal situations when the power line contains a DC offset.

The 61700 series uses state-of-the-art PWM technology and a power factor correction circuit. These features allow it to generate very clean AC output with a typical distortion of less than 0.3%, and it can yield higher efficiency and deliver more output power than other sources on the market.

By using advanced DSP technology, the 61700 series offers precise, high speed measurements including RMS voltage, RMS current, true power, power factor, current crest factor, and more.

The 61700 series can also be remotely controlled via powerful and user-friendly SoftPanel software through GPIB or RS-232 interfaces.

With the self-diagnosis routine and protection against over power, over current, over voltage, over temperature, and fan fail, the 61700 series ensures quality and reliability for even the most demanding engineering testing and production line applications.



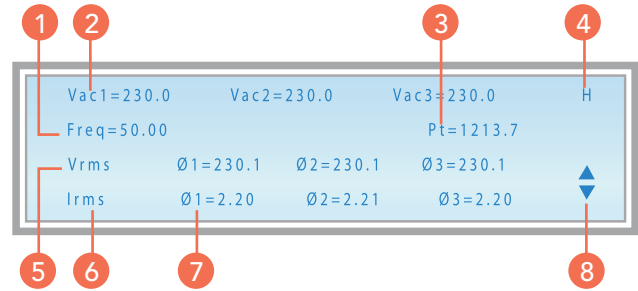
Chroma
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COMPREHENSIVE MEASUREMENTS

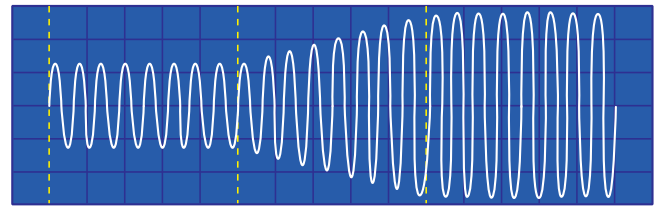
By building in a 16-bit precision measurement circuit, the 61700 series AC source offers precision and high speed measurements such as RMS voltage, RMS current, true power, power factor, current crest factor, VA (apparent power) and VAR (reactive power). Users can use the rotary knob to switch among measurement items shown on the LCD display, or change pages to view more measurement items.

SLEW RATE OF VOLTAGE

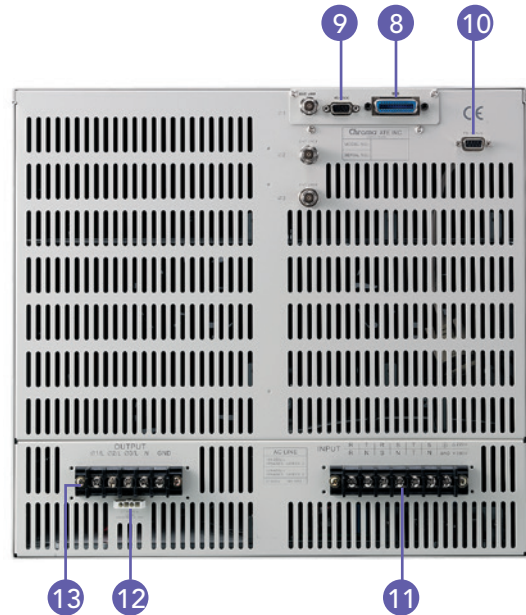
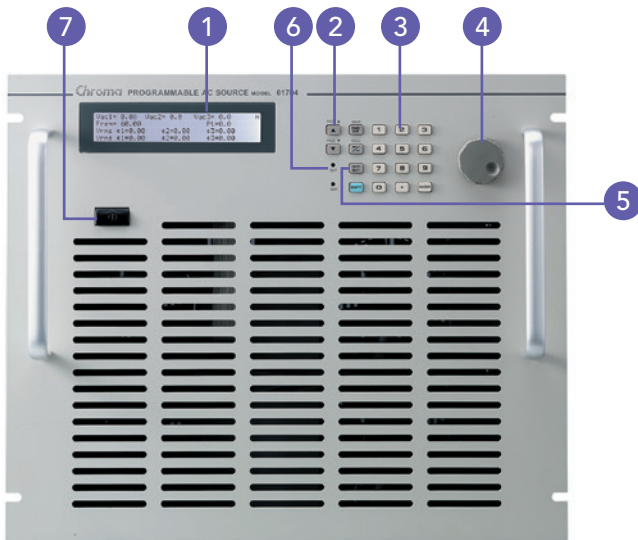
The 61700 Series Programmable AC Source uses DSP technology to generate programmable voltage waveforms. Users can change the output voltage in a single step or set the slew rate for gradual voltage increases or decreases. This helps to test the product's line-input range such as 190V to 264V. And it reduces inrush current when the voltage is raised from a low level to a higher level.



1. Frequency setting
2. Voltage setting
3. Total power measure
4. High voltage range
5. Voltage r.m.s. measure
6. Current r.m.s. measure
7. Current measure data
8. Page Up/Down



PANEL DESCRIPTION



1. **LCD Display**
LCD display shows the setup, operating status and readings
2. **Page Up/Down Keys**
Facilitate parameter data editing
3. **Numeric Keys**
Data entry of test parameters
4. **Rotary Knob**
Analog control of voltage, frequency and parameters
5. **Output Enable Key**
To enable or disable output
6. **Output Indicator**
Light on when output is enabled
7. **Power Switch**
8. **GPIB Interface**
9. **RS-232C Interface**
10. **System Interface**
TTL signals for system status
11. **Input Terminal**
3Ø Y and Δ connections are suitable
12. **Remote Sense Terminal**
Use to compensate the line drop between source and testing point
13. **Output Terminal**
Connects output cable to the UUT

ONE-KEY RECALL MODE

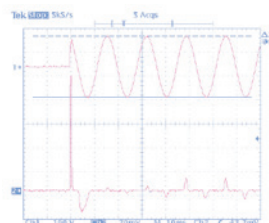
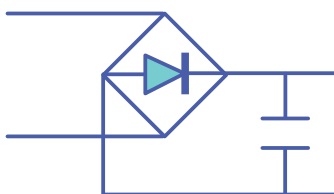
Chroma's Programmable AC Power Source 61700 Series allows users to store nine voltage and frequency settings. By simply pressing keys "1" through "9", users can quickly recall a saved value. This enables operators or test engineers to change voltage or frequency easily for fixed test conditions.

CHOICE 1-9, PRESS <ENTER> TO SAVE			
1_	Vac1= 0.0	Vdc1= 0.0	
	Vac2= 0.0	Vdc2= 0.0	
	Vac3= 0.0	Vdc3= 0.0	F=60.00

CHOICE 1-9, PRESS <ENTER> TO RECALL			
1_	Vac1= 100.0	Vdc1= 20.0	
	Vac2= 100.0	Vdc2= 20.0	
	Vac3= 100.0	Vdc3= 20.0	F=60.00

HIGH OUTPUT CURRENT CREST FACTOR AND TURN ON/OFF PHASE CONTROL

The 61700 Series provides a high current crest factor (max. 6), delivering the transient power needed for testing most switching-mode power circuits. Its programmable turn-on/off phase-angle control further enhances test flexibility, making the 61700 Series ideal for inrush current testing.



ORDERING INFORMATION

- 61701: Programmable AC Source 0 to 300V, 15 to 1.2kHz, 3ø 1500VA
- 61702: Programmable AC Source 0 to 300V, 15 to 1.2kHz, 3ø 3000VA
- 61703: Programmable AC Source 0 to 300V, 15 to 1.2kHz, 3ø 4500VA
- 61704: Programmable AC Source 0 to 300V, 15 to 1.2kHz, 3ø 6000VA
- 61705: Programmable AC Source 0 to 300V, 15 to 1.2kHz, 3ø 12000VA
- A615001: Remote Interface Board for 61500/61600/61700 Series (RS-232 & GPIB Interfaces)
- A615002: Remote Interface Board for 61500/61600/61700 Series (LAN & USB Interfaces)
- A617001: SoftPanel for Model 61700 Series



Model 61705

Model 61701 to 61704

SPECIFICATIONS

Model	61701	61702	61703	61704	61705
AC Output Rating					
Max. Power	1500VA	3000VA	4500VA	6000VA	12000VA
Per Phase	500VA	1000VA	1500VA	2000VA	4000VA
Voltage (per phase)					
Range	150V/ 300V	150V/ 300V	150V/ 300V	150V/ 300V	150V/ 300V
Accuracy	0.2%+0.2%F.S.	0.2%+0.2%F.S.	0.2%+0.2%F.S.	0.2%+0.2%F.S.	0.2%+0.2%F.S.
Resolution	0.1V	0.1V	0.1V	0.1V	0.1V
Distortion *1	0.3%@50/60Hz 1.5% @ 15 to 1.2kHz	0.3%@50/60Hz 1.5% @ 15 to 1.2kHz	0.3%@50/60Hz 1.5% @ 15 to 1.2kHz	0.3%@50/60Hz 1.5% @ 15 to 1.2kHz	0.3%@50/60Hz 1.5% @ 15 to 1.2kHz
Line regulation	0.1%	0.1%	0.1%	0.1%	0.1%
Load regulation *2	0.2%	0.2%	0.2%	0.2%	0.2%
Temp. coefficient	0.02% per degree from 25°C				
Max. Current (per phase)					
RMS	4A/2A	8A/4A	12A/6A	16A/8A	32A/20A
Peak	24A/12A	48A/24A	72A/36A	96A/48A	192A/96A
Frequency					
Range	DC, 15 to 1.2kHz	DC, 15 to 1.2kHz	DC, 15 to 1.2kHz	DC, 15 to 1.2kHz	DC, 15 to 1.2kHz
Accuracy	0.15%	0.15%	0.15%	0.15%	0.15%
Phase Angle					
Range	0 to 360°	0 to 360°	0 to 360°	0 to 360°	0 to 360°
Resolution	0.1°	0.1°	0.1°	0.1°	0.1°
Accuracy	< 0.8°@50/60Hz	< 0.8°@50/60Hz	< 0.8°@50/60Hz	< 0.8°@50/60Hz	< 0.8°@50/60Hz
DC Output Rating (per phase)					
Power	250W	500W	750W	1kW	2kW
Voltage	212V/424V	212V/424V	212V/424V	212V/424V	212V/424V
Current	2A/1A	4A/2A	6A/3A	8A/4A	16A/8A
Input 3-Phase Power (per phase)					
Voltage Operating Range	3Ø 100 to 240V ± 10%V _{LN} (WYE); 3Ø 100 to 240V ± 10%V _{LL} (Delta)		3Ø 200 to 240V ± 10%V _{LN} (WYE); 3Ø 200 to 240V ± 10%V _{LL} (Delta)		
Frequency range	47 to 63Hz	47 to 63Hz	47 to 63Hz	47 to 63Hz	47 to 63Hz
Current	9A Max. (3Ø 100 to 240V ± 10%V _{LN})	16A Max. (3Ø 100 to 240V ± 10%V _{LN})	10A Max. (3Ø 200 to 240V ± 10%V _{LN})	14A Max. (3Ø 200 to 240V ± 10%V _{LN})	45A Max. (3Ø 200 to 240V ± 10%V _{LN})
Power factor *3	0.97 Min.	0.98 Min.	0.98 Min.	0.98 Min.	0.98 Min
Measurement					
Voltage (Line-Neutral)					
Range	150V/300V	150V/300V	150V/300V	150V/300V	150V/300V
Accuracy	0.2%+0.2%F.S.	0.2%+0.2%F.S.	0.2%+0.2%F.S.	0.2%+0.2%F.S.	0.2%+0.2%F.S.
Resolution	0.1V	0.1V	0.1V	0.1V	0.1V
Current (per phase)					
Range (peak)	24A	48A	72A	96A	192A
Accuracy (RMS)	0.4%+0.3%F.S.	0.4%+0.3%F.S.	0.4%+0.3%F.S.	0.4%+0.3%F.S.	0.4%+0.3%F.S.
Accuracy (peak)	0.4%+0.6%F.S.	0.4%+0.6%F.S.	0.4%+0.6%F.S.	0.4%+0.6%F.S.	0.4%+0.6%F.S.
Resolution	0.01A	0.01A	0.01A	0.01A	0.01A
Power (per phase)					
Accuracy	0.4%+0.4% F.S.	0.4%+0.4% F.S.	0.4%+0.4% F.S.	0.4%+0.4% F.S.	0.4%+0.4% F.S.
Resolution	0.1W	0.1W	0.1W	0.1W	0.1W
Others					
Efficiency *4	68 %	77 %	81 %	82%	82%
Protection	UVP, OCP, OPP, OTP, FAN				
Temperature Range					
Operating	0°C to 40°C				
Storage	-40°C to 85°C				
Humidity	30 % to 90 %				
Safety & EMC					
CE	CE				
Dimension (H x W x D)	400 x 482.6 x 600.5 mm / 15.75 x 19 x 23.64 inch	400 x 482.6 x 600.5 mm / 15.75 x 19 x 23.64 inch	400 x 482.6 x 600.5 mm / 15.75 x 19 x 23.64 inch	400 x 482.6 x 600.5 mm / 15.75 x 19 x 23.64 inch	896.4 x 546 x 699.9 mm / 35.28 x 21.5 x 27.56 inch
Weight	75 kg / 165.2 lbs	75 kg / 165.2 lbs	75 kg / 165.2 lbs	75 kg / 165.2 lbs	150 kg / 330.4 lbs

Note *1: Maximum distortion is tested on output 125VAC (150V RANGE) and 250VAC (300V RANGE) with maximum current to linear load.


Note *2: Load regulation is tested with sinewave and remote sense.

Note *3: Input power factor is tested on input 220V, full load condition.


Note *4: Efficiency is tested on input voltage 110V for 61701 and 61702, 220V for 61703, 61704 and 61705.


* All specifications are subject to change without notice.

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