

PROGRAMMABLE 3-PHASE AC SOURCE

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

The 61700 supplies the output voltage from 0 to 300VAC and it can be set individually for each phase. Users also can set the phase angle from 0° to 360°. These kinds of function make the 61700 series can simulate unbalance 3-phase power. Because of the wide output frequency from 15 to 1200Hz, it is suitable for avionics, marine and military application. The AC+DC mode extends the output function to simulate abnormal situation when power line contains DC offset.

The 61700 series uses the state-of-the-art PWM technology, so it is capable to generate very clean AC output with typical distortion less than 0.3%. With power factor correction circuit,

the 61700 series yields higher efficiency and deliver more output power.

By using advanced DSP technology, the 61700 series offers precision and high speed measurements such as RMS voltage, RMS current, true power, power factor, and current crest factor, etc.

The 61700 series offers an optional function to output transient voltage. The function includes LIST, PULSE, STEP and INTERHARMONICS mode. Users can easily program variant waveform for immunity test. The 61700 series can also be controlled by a powerful and user-friendly softpanel through GPIB or RS-232 interface. Besides that, the softpanel includes a waveform editor that can edit up to 40th order harmonic components. By this way, the 61700 series get the ability to output distorted waveform as users like.

The self-diagnosis routine and protections against overpower, over current, over voltage, over temperature and fan fail, the 61700 series ensure the quality and reliability for even the most demanding engineering testing and production line application.

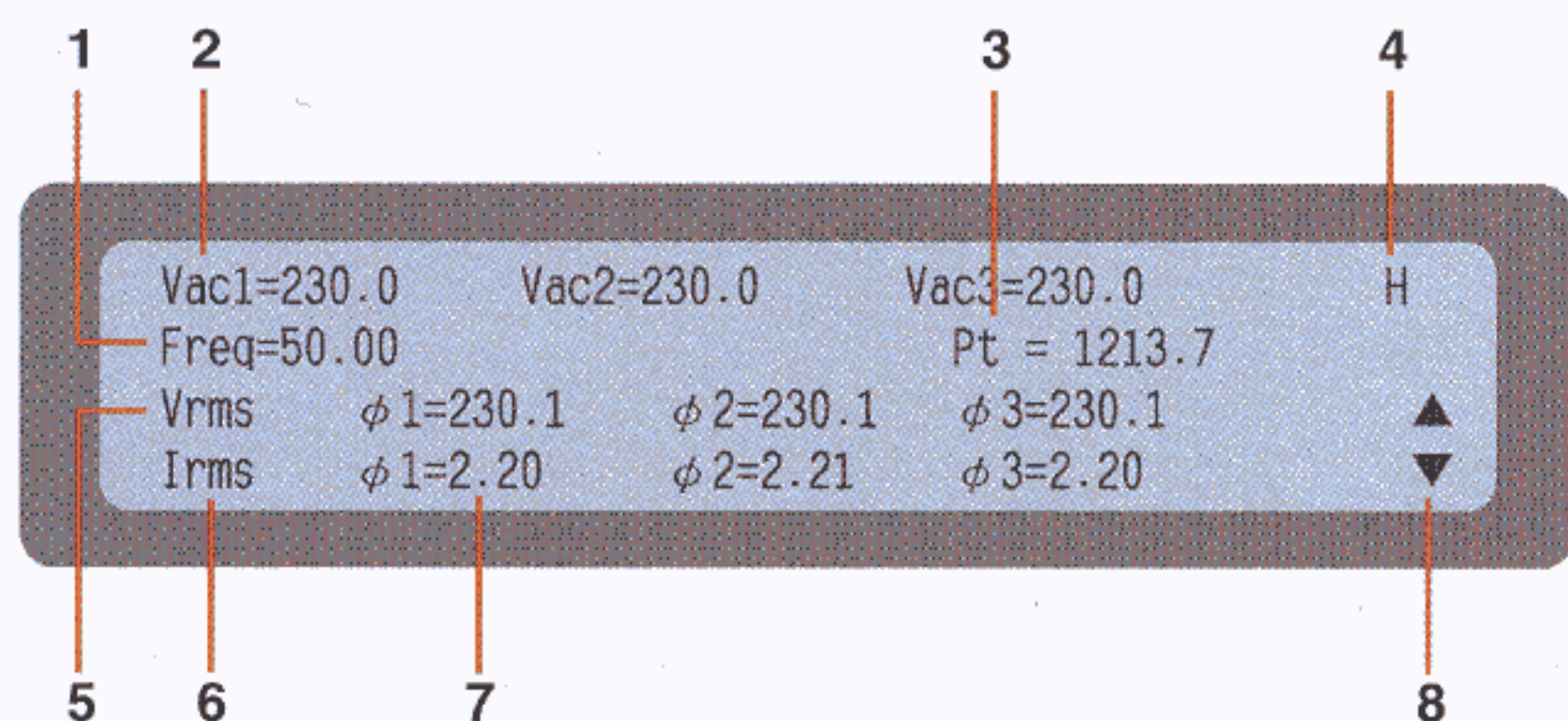
MODEL 61700 Series

Key Features

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



Chroma

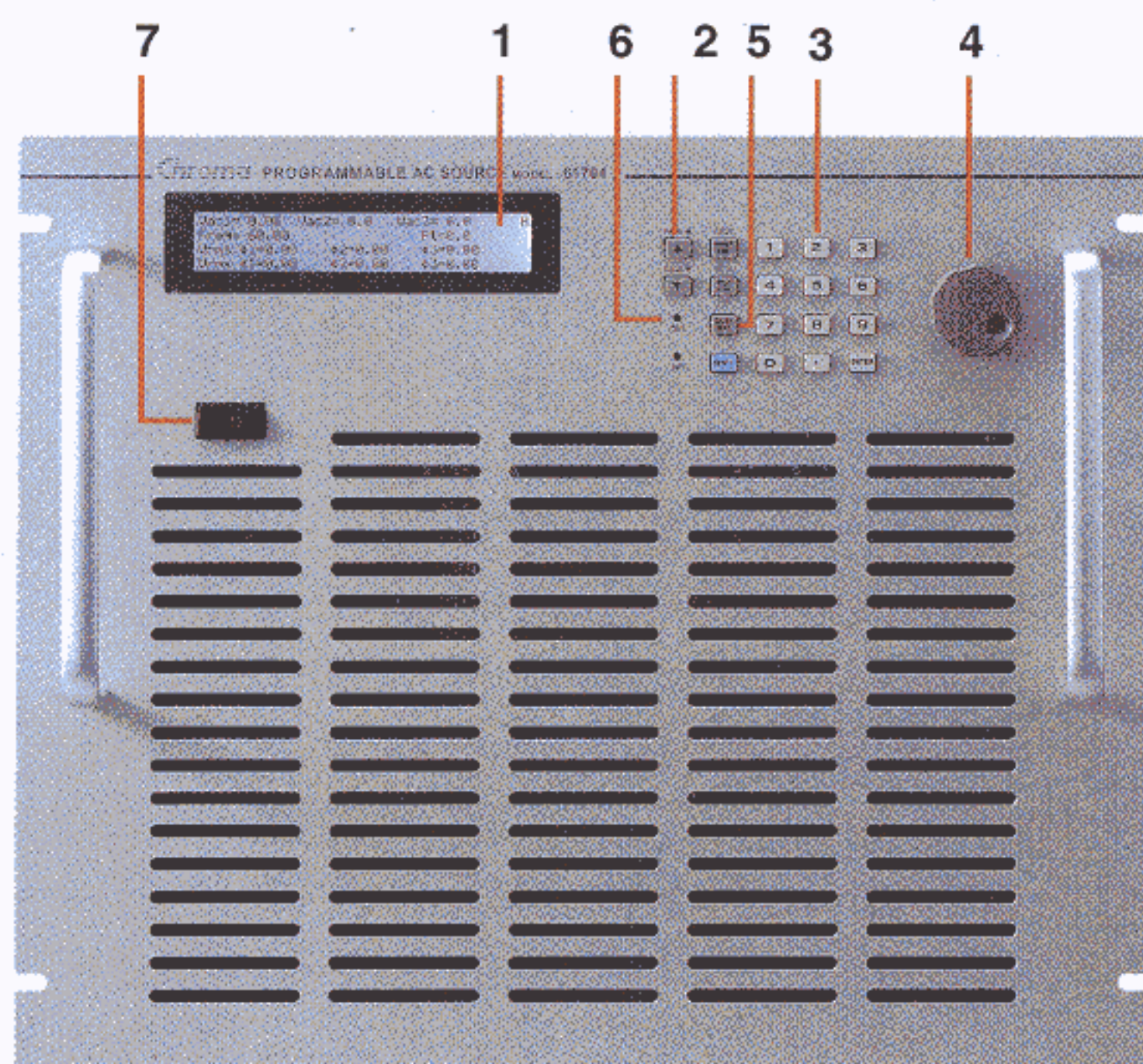


- | | |
|------------------------|---------------------------|
| 1. Frequency setting | 5. Voltage r.m.s. measure |
| 2. Voltage setting | 6. Current r.m.s. measure |
| 3. Total power measure | 7. Current measure data |
| 4. High voltage range | 8. Up or down page |

By using advanced DSP technology and 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, and current crest factor, VA(apparent power) and VAR(reactive power). Users can use rotary knob to change the measurement items shown on LCD display. They also can change page to see more measurement items.

Panel Description

Front Panel



1. LCD Display

LCD display shows the setup, operating status and readings

2. Page Up/Down Key

Facilitate parameter data editing

3. Numeric Key

Data entry of test parameters

4. Rotary Knob

Program analog of setting the voltage, frequency and parameter setting

5. Output Enable Key

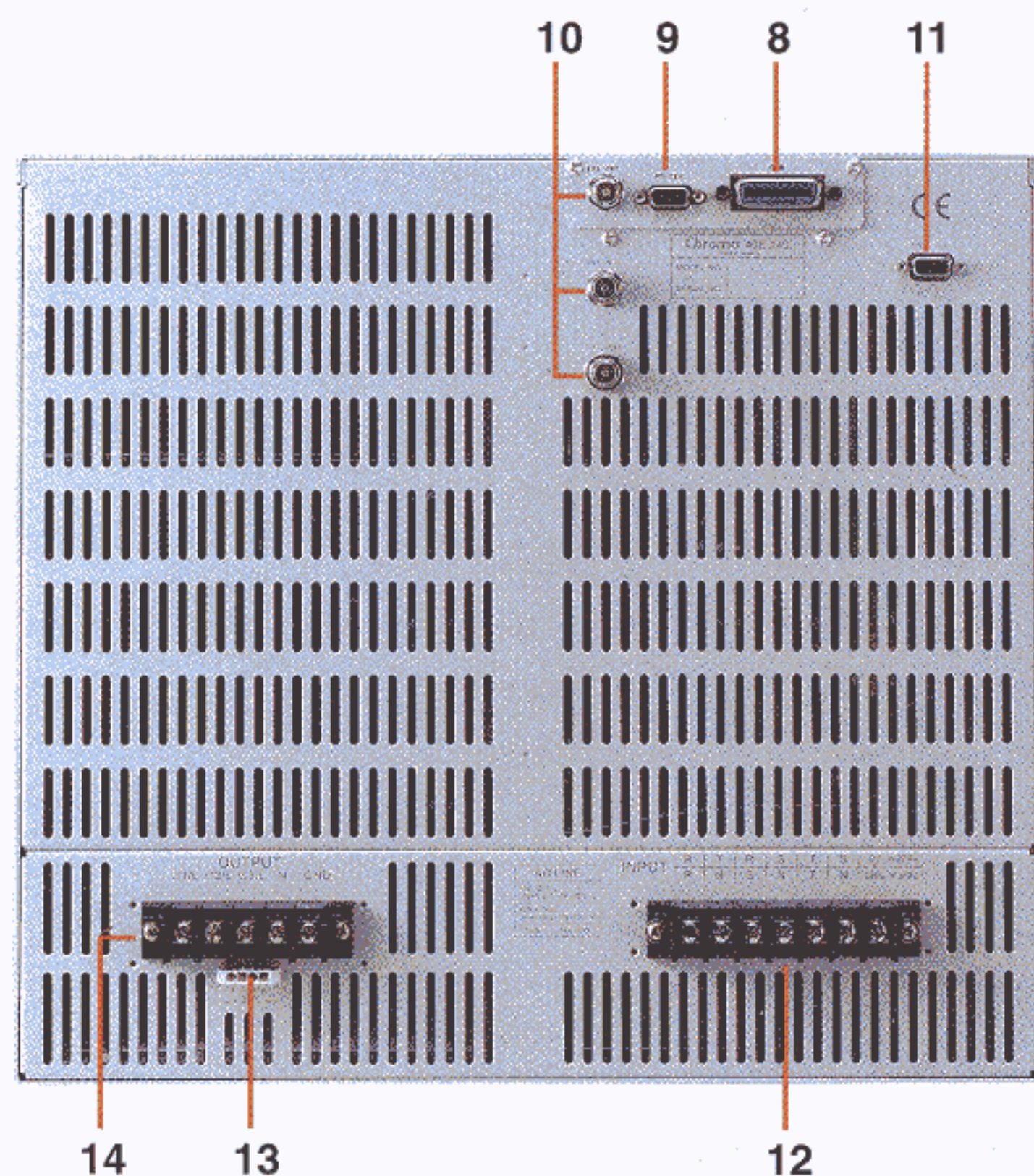
To enable or disable output

6. Output Indicator

Light on when output is enable

7. Power Switch

Rear Panel



8. GPIB Interface

9. RS-232C Interface

10. External V Reference (Reserved)

External programming voltage input

11. System Interface

Use for parallel operation and transient signal

12. Input Terminal

3 ϕ Y and Δ connecting are suitable

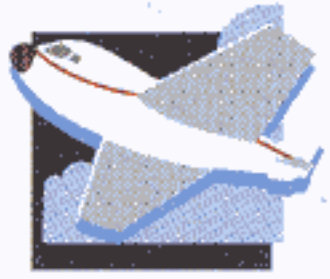
13. Remote Sense Terminal

Use to compensate the line drop between source and testing point

14. Output Terminal

Connect output cable to the UUT

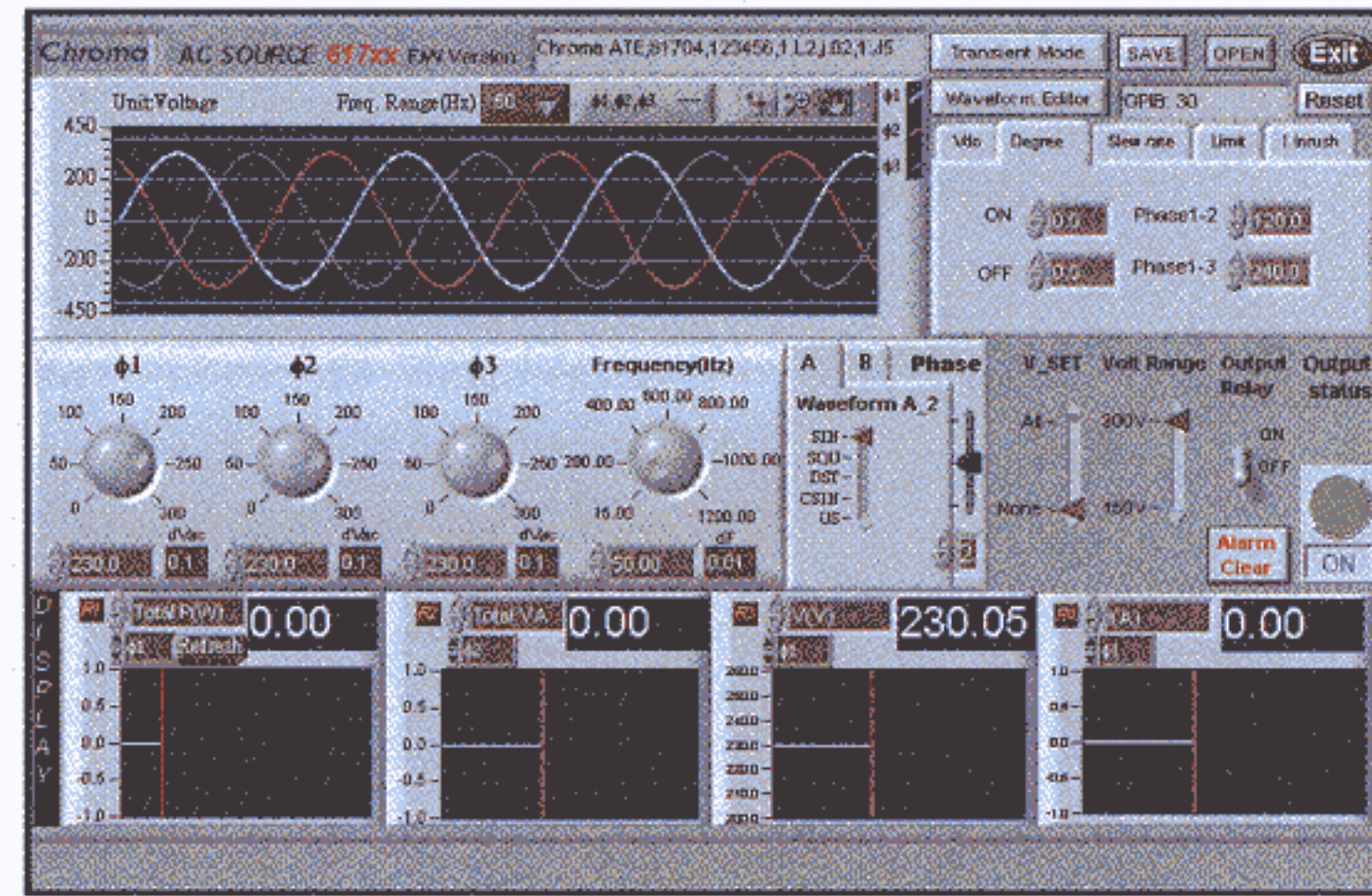
Applications



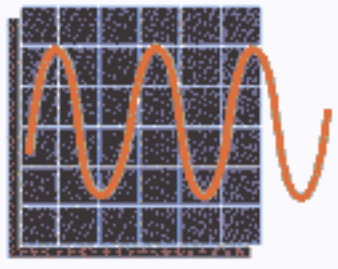
Avionics Testing of Military and Aircraft



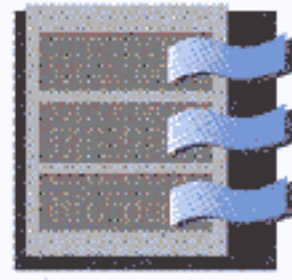
UPS/AVR Testing



Softpanel of 61700 series



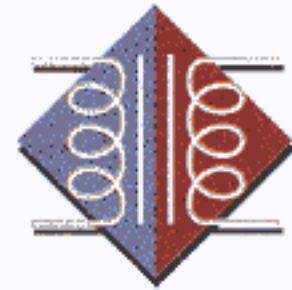
Power Supply Testing



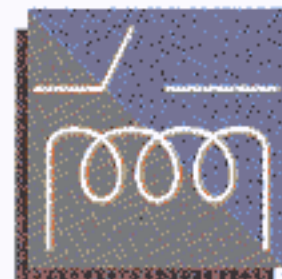
Air-conditioner Testing



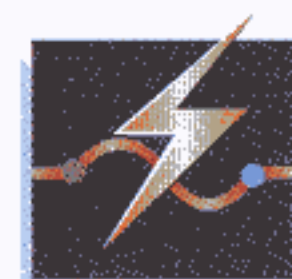
Servo Motor, Synchro Motor Testing



Transformers Testing



Relays, Switches Testing



Breakers, Fuses Testing



Order Information

- 61701 AC Source 0-300V, 15-1.2KHz, 3Ø 1500VA
- 61702 AC Source 0-300V, 15-1.2KHz, 3Ø 3000VA
- 61703 AC Source 0-300V, 15-1.2KHz, 3Ø 4500VA
- 61704 AC Source 0-300V, 15-1.2KHz, 3Ø 6000VA
- 61705 AC Source 0-300V, 15-1.2KHz, 3Ø 12000VA
- A615001 Remote Interface Board for 61500/61600/61700 Series (RS-232C Interface, GPIB Interface)
- A600009 GPIB Cable (200cm)
- A600010 GPIB Cable (60cm)

Option for transient voltage output function, including LIST, PULSE, STEP and INTERHARMONICS mode.

SPECIFICATIONS

Model	61701	61702	61703	61704	61705
AC OUTPUT RATING					
Max. Power	1500VA	3000 VA	4500 VA	6000 VA	12000 VA
Per Phase	500VA	1000 VA	1500 VA	2000 VA	4000 VA
Voltage					
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	0.3% @50/60Hz 1.5% 15~1.2K Hz	0.3% @50/60Hz 1.5% 15~1.2K Hz	0.3% @50/60Hz 1.5% 15~1.2K Hz	0.3% @50/60Hz 1.5% 15~1.2K Hz	0.3% @50/60Hz 1.5% 15~1.2K Hz
Line regulation	0.1%	0.1%	0.1%	0.1%	0.1%
Load regulation	0.2%	0.2%	0.2%	0.2%	0.2%
Temp. coefficient	0.02% per degree from 25°C				
Maximum Current (per phase)					
r.m.s.	4A/2A	8A/4A	12A/6A	16A/8A	32A/16A
peak	24A/12A	48A/24A	72A/36A	96A/48A	192A/96A
Frequency					
Range	DC, 15~1.2K Hz	DC, 15~1.2K Hz	DC, 15~1.2K Hz	DC, 15~1.2K Hz	DC, 15~1.2K Hz
Accuracy	0.15%	0.15%	0.15%	0.15%	0.15%
Phase Angle					
Range	0~360°	0~360°	0~360°	0~360°	0~360°
Resolution	0.3°	0.3°	0.3°	0.3°	0.3°
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	1000W	2000W
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 range	90~250V	90~250V	190~250V	190~250V	190~250V
Frequency range	47~63Hz	47~63Hz	47~63Hz	47~63Hz	47~63Hz
Current	8A Max.	16A Max.	10A Max.	14A Max.	28A Max.
Power factor	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 (r.m.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.	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	68 %	77 %	81 %	82%	82%
Size (WxHxD)	483 X 399 X 600mm	483 X 399 X 600mm	483 X 399 X 600mm	483 X 399 X 600mm	483 X 799 X 630 mm
Weight	74Kg	74Kg	75Kg	75Kg	170Kg
Protection	UVP, OCP, OPP, OTP, FAN				
Temperature Range					
Operation	0°C~40°C				
Storage	-40°C~85°C				
Humidity	30 %~90 %				
Safety & EMC	CE				

All specifications are subject to change without notice.

Remarks

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

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

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

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