



## 可编程直流电源供应器 MODEL 62000P 系列 PROGRAMMABLE DC POWER SUPPLY

Chroma 62000P 系列程式控制直流电源供应器，提供许多独特功能供ATE整合与测试使用。这些功能包括定功率操作范围、精准的输出电流和电压量测、提供输出触发信号，以及可类比复杂的DC暂态波形以便测试产品的瞬断、上升与其他电压间偏差的能力。62000P是高准确度程式控制直流电源供应器的新标准，专门设计于自动化测试D2D转换器和类似产品使用。

62000P系列包含12个不同的机型，从600W到5000W以及0-120A到0-600V。由于单一仪器可提供的定功率操作范围包含高电压/低电流和低电压/高电流，因此可减少一般ATE应用所需的直流电源供应器数量。

62000P系列同时具备16 bit高解析度的准确电压和电流读值回读功能，这表示系统不再需要额外复杂的分流器/电压表，就能测量准确的待测物输入参数读值。62000P 电源供应器也具有 I/O介面可提供 8 bit TTLs、DC-ON、保护输出信号、远端抑制保护功能以及系统时序量测的输出触发信号。

62000P系列电源供应器另一个独特的功能为可编辑复杂的 DC 暂态波形。此功能可对设备进行输入电压漏失瞬断和其他电压变化等测试，是用于飞机设备测试、反用换流器测试和其他会产生电压中断之设备测试的理想选择。其应用的范围包括 DC/DC 转换器和逆变器的压降测试、引擎启动类比、电池自动充电、电子产品寿命测试等等。

### MODEL 62000P 系列

#### 特点：

- 定功率操作下允许多种电压和电流组合输出
- 电压输出范围：0 ~ 600V；  
电流输出范围：0 ~ 120A；  
功率输出范围：600W, 1200W, 2400W, 5000W
- 数位旋钮、按键及功能按钮操作
- 高功率因素到 0.95
- 高速程式控制介面
- 精准的电压及电流量测
- 具有主/从控制介面于并联操作模式下达到均流
- 电压渐升/降功能:时间(10ms~99hours)
- 具有 10 组程式及 100 个步骤设定电压/电流 / 8 bit TTL 讯号输出
- 电压及电流斜率控制
- 过电压、限电流及过温度保护功能
- 电压补偿可达5V
- APG (Analog Programmable Interface) 类比讯号控制介面
- 可选购 GPIB 或乙太网路控制介面
- 标准的 RS-232 & USB 控制介面
- LabView 及 Labwindows 控制驱动程式
- 具有 CE 认证

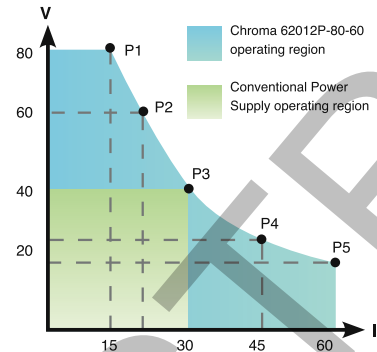


# Chroma



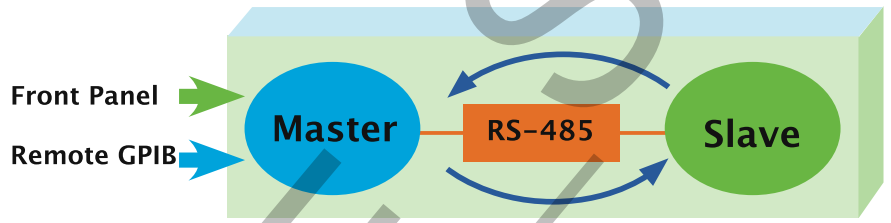
## 定功率范围下提供宽广操作

62000P系列直流电源供应器提供宽广的操作范围。例如，62012P-80-60的输出规格为1200W/80V/60A可於不同的组合中灵活操作如图右侧所示。如普通的直流电源供应器显示提供所有的输出电压相同的额定电流，而62000P於低输出电压时提供较大的电流。这表示低电压/高电流及高电压/低电流两者的待测物可使用单台直流电源供应器测试输入稳定度，於一般的ATE系统内部避免多台直流电源供应器以节省成本与空间。



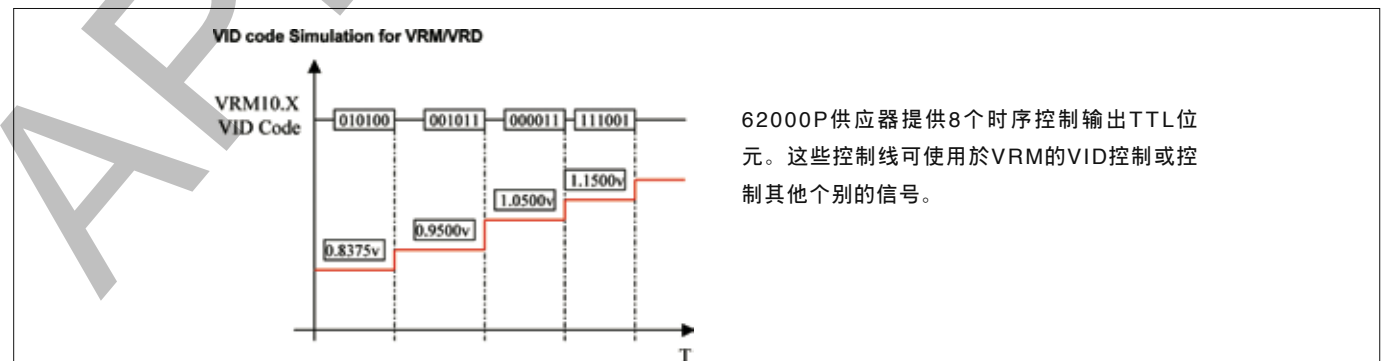
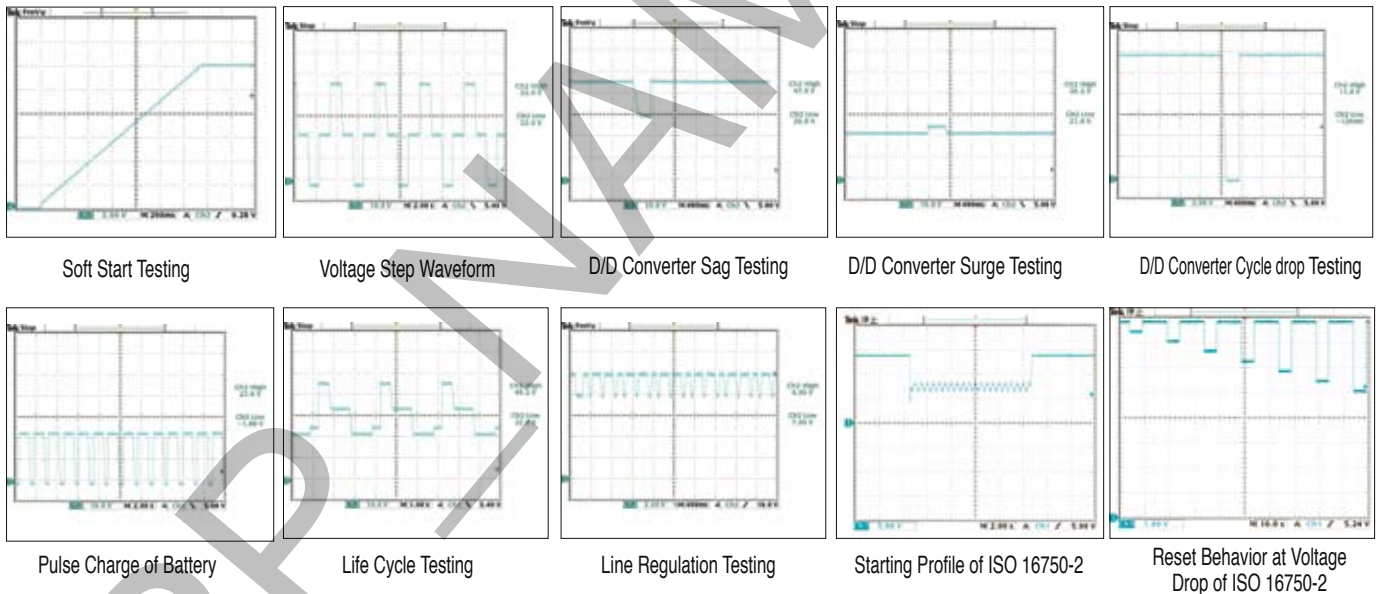
## 主/从并联&串联控制

当需要高功率时，一般以并联或串联连接两台或多台直流电源供应器。62000P系列直流电源供应器具有智慧型主/从式控制模式使串联/并联能快速并简单操作。於此模式中，主机测量数值并可下传资料至从属仪器，因此，可简易编程并自动均流。



## 编程序列功能及应用

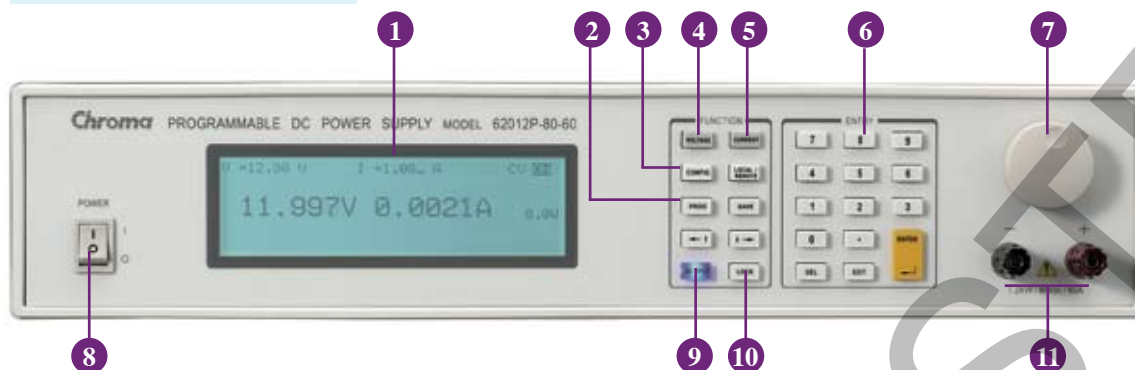
62000P系列直流电源供应器提供100个步阶，使用者可程式控制序列具有时间设定值，范围为5ms~15000s，电压及电流斜率控制与自动化测试应用的8bit TTL 讯号输出。其应用的范围包括 DC/DC 转换器和逆变器的压降测试、引擎启动类比、电池自动充电、产品寿命周期测试及飞机航空测试等等。



62000P供应器提供8个时序控制输出TTL位元。这些控制线可使用於VRM的VID控制或控制其他个别的信号。

## 面板说明

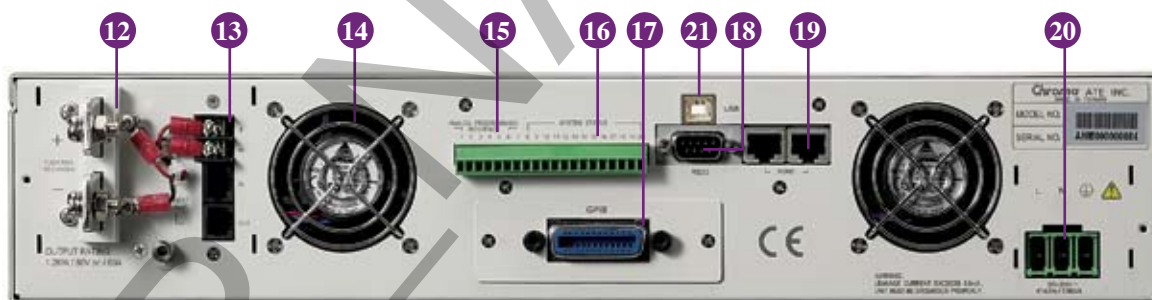
## Model : 62012P-80-60



- |                |               |
|----------------|---------------|
| 1. LCD 显示幕     | 显示设定, 量测及操作状态 |
| 2. PROG 功能键    | 程式步阶电压及电流设定选择 |
| 3. CONFIG功能键   | 系统内部参数设定      |
| 4. 电压设定键       | 设定输出电压值       |
| 5. 电流设定键       | 设定输出限电流值      |
| 6. 数位键         | 数位输入          |
| 7. 旋钮          | 旋钮调整设定        |
| 8. AC电源开关      | 开关机控制         |
| 9. 输出ON/OFF控制键 | 输出启动及停止控制     |
| 10. 安全锁键       | 安全锁启动及停止控制    |
| 11. 前面板直流输出端子  | 输出连接端子至负载     |

附注: 40V, 300V及600V机种无前面板输出端子

## Model : 62012P-80-60



- |                |   |
|----------------|---|
| 12. 後背板直流输出端子  | 输出连接端子至负载                                     |
| 13. 远端回馈端子     | 远端回馈连接端子至负载                                   |
| 14. 系统散热风扇     |   |
| 15. 类比控制介面     | 类比输入/出控制&检测电压及电流                              |
| 16. 系统输入/出埠    | 系统输入/出讯号, 如 8 bit TTL, DC-ON, 错误讯号输出及控制ON/OFF |
| 17. GPIB介面(选配) | GPIB & Ethernet (二选一)                         |
| 18. RS-232介面   |   |
| 19. RS-485介面   | 主从串/并联用数位讯号沟通介面                               |
| 20. AC输入端子     |   |
| 21. USB介面      |   |

## 规格表 - 1

Model	62006P-30-80	62006P-100-25	62006P-300-8	62012P-40-120	62012P-80-60	62012P-100-50
<b>Output Ratings</b>						
Output Voltage	0~30V	0~100V	0~300V	0~40V	0~80V	0~100V
Output Current	0~80A	0~25A	0~8A	0~120A	0~60A	0~50A
Output Power	600W	600W	600W	1200W	1200W	1200W
<b>Line Regulation</b>						
Voltage	0.01%+2mV	0.01%+6mV	0.01%+18mV	0.01%+2mV	0.01%+8mV	0.01%+10mV
Current	0.01%+25mA	0.01%+5mA	0.03%+20mA	0.01%+25mA	0.01%+10mA	0.01%+12mA
<b>Load Regulation</b>						
Voltage	0.01%+3mV	0.01%+10mV	0.01%+50mV	0.01%+3mV	0.01%+12mV	0.01%+18mV
Current	0.01%+10mA	0.01%+5mA	0.03%+40mA	0.01%+10mA	0.01%+20mA	0.01%+28mA
<b>Voltage Measurement</b>						
Range	6V/30V	20V/100V	60V/300V	8V/40V	16V/80V	20V/100V
Accuracy	0.05% + 0.05%F.S.	0.05% + 0.05%F.S.	0.05% + 0.05%F.S.	0.05% + 0.05%F.S.	0.05% + 0.05%F.S.	0.05% + 0.05%F.S.
<b>Current Measurement</b>						
Range	16A/80A	5A/25A	1.6A/8A	24A / 120A	12A/60A	10A/50A
Accuracy	0.1% + 0.2%F.S.	0.1% + 0.2%F.S.	0.1% + 0.1%F.S.	0.1% + 0.1%F.S.	0.1% + 0.1%F.S.	0.1% + 0.1%F.S.
<b>Output Noise (0 ~ 20MHz)</b>						
Voltage Ripple (P-P)	60 mV	85 mV	180 mV	90 mV	100 mV	100 mV
Voltage Ripple (rms)	8 mV	10 mV	90 mV	10 mV	10 mV	15 mV
Current Ripple (rms)	60 mA	10 mA	60 mA	120 mA	30 mA	20 mA
<b>OVP Adjustment Range</b>	110% of Vset to 110% of Vmax	110% of Vset to 110% of Vmax	110% of Vset to 110% of Vmax	110% of Vset to 110% of Vmax	110% of Vset to 110% of Vmax	110% of Vset to 110% of Vmax
<b>Slew Rate Range</b>						
Voltage (with USB)	0.001V - 5V/ms	0.001V - 10V/ms	0.01V - 10V/ms	0.001V - 5V/ms	0.001V - 10V/ms	0.001V - 10V/ms
Current (with USB)	0.001A - 1A/ms	0.001A - 1A/ms	0.001A - 1A/ms	0.001A - 1A/ms	0.001A - 1A/ms	0.001A - 1A/ms
<b>Programming Response Time (Typical)</b>						
Rise Time (Full & No Load)	6 ms	10 ms	30 ms	8 ms	8 ms	10 ms
Fall Time	350ms(max)	300 ms(max)	2.5 $\mu$ (max)	460 ms(max)	240 ms(max)	300 ms(max)
<b>Efficiency</b>	0.75	0.75	0.75	0.8	0.8	0.8
<b>Drift (8 hours)</b>						
Voltage	0.02% of Vmax	0.02% of Vmax	0.02% of Vmax	0.02% of Vmax	0.02% of Vmax	0.02% of Vmax
Current	0.04% of Imax	0.04% of Imax	0.04% of Imax	0.04% of Imax	0.04% of Imax	0.04% of Imax
<b>Temperature Coefficient</b>						
Voltage	0.02% of Vmax/ $^{\circ}$ C	0.02% of Vmax/ $^{\circ}$ C	0.02% of Vmax/ $^{\circ}$ C	0.02% of Vmax/ $^{\circ}$ C	0.02% of Vmax/ $^{\circ}$ C	0.02% of Vmax/ $^{\circ}$ C
Current	0.04% of Imax/ $^{\circ}$ C	0.04% of Imax/ $^{\circ}$ C	0.04% of Imax/ $^{\circ}$ C	0.04% of Imax/ $^{\circ}$ C	0.04% of Imax/ $^{\circ}$ C	0.04% of Imax/ $^{\circ}$ C
<b>Transient Response Time</b>						
10 % step change	3 mS	3 mS	3mS	3mS	3 mS	3 mS
Voltage limit @ Series Mode	150V	500V	800V	200V	400V	500V
<b>AC Input Voltage Ranges</b>	95 to 250Vac	95 to 250Vac	95 to 250Vac	95 to 250Vac	95 to 250Vac	95 to 250Vac
<b>Operating Temperature</b>	0~40 $^{\circ}$ C	0~40 $^{\circ}$ C	0~40 $^{\circ}$ C	0~40 $^{\circ}$ C	0~40 $^{\circ}$ C	0~40 $^{\circ}$ C
<b>Dimension (H x W x D)</b>						
Weight	12kg / 26.43 lbs	12.1 kg / 26.65 lbs	11.2 kg / 24.67 lbs	12kg / 26.43 lbs	13 kg / 28.63 lbs	12.1 kg / 26.65 lbs

All specifications are subject to change without notice. Please visit our website for the most up to date specifications.

## 图形化操作介面



ISO 16750-2 4.5.1 电压瞬间中断试验曲线



ISO 16750-2 4.5.3 启动电压试验曲线



62050P-100-100



## 规格表 -2

Model	62012P-600-8	62024P-40-120	62024P-80-60	62024P-100-50	62024P-600-8	62050P-100-100
<b>Output Ratings</b>						
Output Voltage	0~600V	0~40V	0~80V	0~100V	0~600V	0~100V
Output Current	0~8A	0~120A*1	0~60A	0~50A	0~8A	0~100A
Output Power	1200W	1200~2400W*1	2400W	2400W	2400W	5000W
<b>Line Regulation</b>						
Voltage	0.01%+18mV	0.01%+2mV	0.01%+8mV	0.01%+10mV	0.01%+18mV	0.01%+8mV
Current	0.03%+20mA	0.01%+25mA	0.01%+10mA	0.01%+12mA	0.03%+20mA	0.01%+24mA
<b>Load Regulation</b>						
Voltage	0.01%+50mV	0.01%+3mV	0.01%+12mV	0.01%+18mV	0.01%+50mV	0.01%+12mV
Current	0.03%+40mA	0.01%+10mA	0.01%+20mA	0.01%+28mA	0.03%+40mA	0.01%+56mA
<b>Voltage Measurement</b>						
Range	120V/600V	8V / 40V	16V/80V	20V/100V	120V / 600V	20V/100V
Accuracy	0.05%+0.05%F.S.	0.05%+0.05%F.S.	0.05%+0.05%F.S.	0.05%+0.05%F.S.	0.05%+0.05%F.S.	0.05%+0.05%F.S.
<b>Current Measurement</b>						
Range	1.6A/8A	24A / 120A	12A/60A	10A/50A	1.6A / 8A	20A/100A
Accuracy	0.1%+0.1%F.S.	0.1%+0.1%F.S.	0.1%+0.1%F.S.	0.1%+0.1%F.S.	0.1%+0.1%F.S.	0.1%+0.1%F.S.
<b>Output Noise (0 ~ 20MHz)</b>						
Voltage Ripple (P-P)	180 mV	90 mV	100 mV	100 mV	780 mV	50 mV
Voltage Ripple (rms)	90 mV	10 mV	10 mV	15 mV	200 mV	15 mV
Current Ripple (rms)	60 mA	120 mA	30 mA	20 mA	120 mA	40 mA
<b>OVP Adjustment Range</b>	110% of Vset to 110% of Vmax	110% of Vset to 110% of Vmax	110% of Vset to 110% of Vmax	110% of Vset to 110% of Vmax	110% of Vset to 110% of Vmax	110% of Vset to 110% of Vmax
<b>Slew Rate Range</b>						
Voltage (with USB)	0.01V - 10V/ms	0.001V - 5V/ms	0.001V - 10V/ms	0.001V - 10V/ms	0.01V - 10V/ms	0.001V - 10V/ms
Current (with USB)	0.001A - 1A/ms	0.001A - 1A/ms	0.001A - 1A/ms	0.001A - 1A/ms	0.001A - 1A/ms	0.001A - 2A/ms
<b>Programming Response Time (Typical)</b>						
Rise Time (Full & No Load)	60 ms	8 ms	8 ms	10 ms	60 ms	10 ms
Fall Time	5 s(max)	460ms(max)	240 ms(max)	300 ms(max)	5 s(max)	850 ms(max)
<b>Efficiency</b>						
	0.8	0.85	0.85	0.85	0.85	0.85
<b>Drift (8 hours)</b>						
Voltage	0.02% of Vmax	0.02% of Vmax	0.02% of Vmax	0.02% of Vmax	0.02% of Vmax	0.02% of Vmax
Current	0.04% of Imax	0.04% of Imax	0.04% of Imax	0.04% of Imax	0.04% of Imax	0.04% of Imax
<b>Temperature Coefficient</b>						
Voltage	0.02% of Vmax/°C	0.02% of Vmax/°C	0.02% of Vmax/°C	0.02% of Vmax/°C	0.02% of Vmax/°C	0.02% of Vmax/°C
Current	0.04% of Imax/°C	0.04% of Imax/°C	0.04% of Imax/°C	0.04% of Imax/°C	0.04% of Imax/°C	0.04% of Imax/°C
<b>Transient Response Time</b>						
10 % step change	3mS	3mS	3mS	3mS	3mS	3mS
Voltage limit @ Series Mode	600 mV	150 mV	250 mV	250 mV	600mV	250 mV
<b>AC Input Voltage Ranges</b>	800V	200V	400V	500V	800V	500 V
<b>AC Input Voltage Ranges</b>	95 to 250Vac	190 to 250Vac (single phase)	190 to 250Vac (single phase)	190 to 250Vac (single phase)	190 to 250Vac (single phase)	190 to 250Vac (3 phase 4 wire, Delta connection) or 342 to 440Vac(3phase 5 wire, Y connection)
<b>Operating Temperature</b>	0~40°C	0~40°C	0~40°C	0~40°C	0~40°C	0~40°C
<b>Dimensions (H x W x D)</b>	89 x 430 x 425 mm / 3.5 x 16.93 x 16.73 inch					176 x 428 x 566 mm / 6.93 x 16.85 x 22.28 inch
<b>Weight</b>	11.2 kg / 24.67lbs	13 kg / 28.63 lbs	12.2 kg / 26.87 lbs	13 kg / 28.63 lbs	13 kg / 28.63 lbs	28 kg / 61.67 lbs

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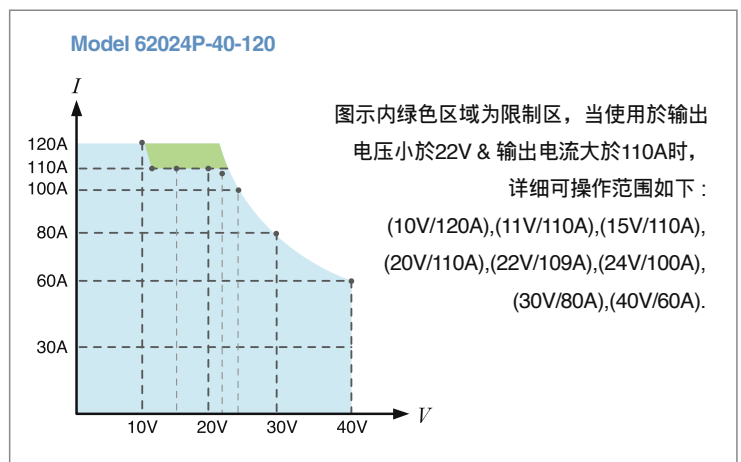
Note \*1 : 可最大输出功率2400W於输出电压范围22V至40V, 参考如下图示详细操作范围。

## 订购资讯

- 62006P-30-8 : 可编程直流电源供应器, 30V/80A/600W
- 62006P-100-25 : 可编程直流电源供应器, 100V/25A/600W
- 62006P-300-8 : 可编程直流电源供应器, 300V/8A/600W
- 62012P-40-120 : 可编程直流电源供应器, 40V/120A/1200W
- 62012P-80-60 : 可编程直流电源供应器, 80V/60A/1200W
- 62012P-100-50 : 可编程直流电源供应器, 100V/50A/1200W
- 62012P-600-8 : 可编程直流电源供应器, 600V/8A/1200W
- 62024P-40-120 : 可编程直流电源供应器, 40V/120A/2400W
- 62024P-80-60 : 可编程直流电源供应器, 80V/60A/2400W
- 62024P-100-50 : 可编程直流电源供应器, 100V/50A/2400W
- 62024P-600-8 : 可编程直流电源供应器, 600V/8A/2400W
- 62050P-100-100 : 可编程直流电源供应器, 100V/100A/5000W
- A620004 : 62000P系列GPIB 控制介面
- A620006 : 62000P 2U系列19"机框耳架
- A620009 : 62000P系列电脑图形化操作介面Softpanel
- A620015 : 62050P-100-100专用之19"机框耳架

\* A620023 : 以太网路控制介面

\* 请洽Chroma业务办公室



### 规格表-3

<b>Programming &amp; Measurement Resolution</b>	
Voltage (Front Panel)	10 mV
Current (Front Panel)	10 mA
Voltage (Remote Interface)	0.003% of Vmax
Current (Remote Interface)	0.002% of I <sub>max</sub>
Voltage (Analog Programming Interface )	0.04% of Vmax
Current (Analog Programming Interface )	0.04% of I <sub>max</sub>
<b>Programming Accuracy</b>	
Voltage Programming (Front Panel and Remote Interface )	0.1% of Vmax
Voltage Programming (Analog Programming Interface )	0.2% of Vmax
Current Programming (Front Panel and Remote Interface )	0.3% of I <sub>max</sub>
Current Programming (Analog Programming Interface )	0.3% of I <sub>max</sub>
<b>Programming Response Time</b>	
Rise Time : For a programmed 5% to 95% step in output voltage.(Full & No Load)	See Electrical Specification
Fall Time : For a programmed 95% to 5% step in output voltage.	
(The fall time will be affected by the external loading from UUT.)	
Vout setting (USB send command to DC source receiver)	10ms
?Volt , ? Current (under USB command using Fetch)	10ms
?Volt , ? Current (under USB command using Measure)	70ms
<b>Analog Programming Interface</b>	
Voltage and Current Programming inputs	0~10Vdc or 0~5Vdc of F.S.
Voltage and Current monitor	0~10Vdc or 0~5Vdc of F.S.
Isolation : Maximum working voltage of any analog programming signal with respect to chassis potential.	70Vdc
<b>Auxiliary Power Supply</b>	
Output Voltage	12Vdc
Maximum Current Source Capability	10mA
<b>Remote inhibit function (I/O)</b>	
Use to disable the output of DC power supply; Active Low	TTL
<b>DC-ON Output Signal</b>	
Indicate the output status; Active High	TTL
<b>Fault output signal</b>	
Indicate if there is a fault/protection occurred; Active Low	TTL
<b>Series &amp; Parallel operation function with Master / Slave control</b>	
Voltage limit @ Series Mode	See Electrical Specification
Number of DC Power Supplies allowed @ Master / Slave control mode	5
<b>Auto Sequencing Programmable Function</b>	
Number of program	10
Number of sequence	100
Time Range	5ms - 15,000S
TTL signal out	8 bits
TTL source capability	7 mA
<b>Voltage Step Mode Programmable Function</b>	
Start Voltage Range	0~full scale
End Voltage Range	0~full scale
Total Run Time Range (hhh:mm:ss.sss)	10ms - 99 hours
<b>Slew Rate Control Function</b>	
Voltage slew rate range	See Electrical Specification
(The fall slew rate will be affected by the discharge rate of the output capacitors especially under no load condition.)	
Current slew rate range	See Electrical Specification
Minimum transition time.	
<b>Remote Sense</b>	
Line loss compensation	5V

All specifications are subject to change without notice. Please visit our website for the most up to date specifications.

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