

Programmable 1 Phase / 3 Phase AC Power Source



【特點】

- 可程式單相，三相輸出
- 內建主動式輸入功率因數改善線路 ($\text{PF} \geq 0.97$)
- 輸出電壓 (0 - 300V) 及頻率 (40 - 1000Hz) 設定全範圍可調
- 大型的 240 X 64 Graphic LCD 顯示器
- 在阻性負載下波形失真小於 1%
- 輸出波峰因數比，於滿電流的輸出狀態下可達 3:1
- 暫態反應快，在瞬間加重載或除載時波形可於 400us 內恢復
- 全範圍輸出電壓的穩壓率可達 1%
- 可程式 50 個記憶組，內含 9 測試步驟：記憶組及步驟可單獨設定迴圈，記憶組間亦可連結測試以模擬各種負載的電源特性 (EAC-303 / EAC-306)
- 可執行自動循環測試，最高可執行 999900 次
- 針對被測物的壽命試驗，可依需求設定以秒、分、時為測試執行時間單位
- 特殊的恆流裝置，可輕易啓動馬達，壓縮機等高啓動電流之負載
- 高啓動負載能力，浪湧電流可達額定電流的 4 倍，並可維持 1000ms 不切斷保護
- 可設定當加載電流超過上限電流設定值時：維持設定值電流恆定輸出 (反應時間 < 1400ms)
- 內建 PLC 遙控界面
- 輸出過電流、短路、過電壓、過功率、過溫度及逆灌電流保護及警報
- 可設定輸出啓始角度，結束角度及電壓暫降 (Voltage Dips)，瞬斷 (Short interruptoin) 及電壓變化 (Voltage variation) (EAC-303 / EAC-306)
- 測試中可以透過飛梭旋紐 (Rotary Knob) 即時的調整顯示中的電壓 / 頻率輸出
- 標準 RS232 & USB 界面，可選購 GPIB 及 Ethernet 界面
- 具有交流 (AC)、直流 (DC) 可程式輸出模式，一台抵兩台滿足客戶的測試應用
- 可量測電壓、頻率、電流 (RMS & Peak)、實功率、視在功率、虛功率、電流波峰及功率因數
- 具有密碼鎖定，記憶組鎖定，及鍵盤鎖定功能

【Features】

- Programmable 1 Phase and three phase output
- Built-in input active Power Factor Correction circuit ($\text{PF} > 0.97$)
- Adjustable AC output voltage 0 - 300V / frequency 40 - 1000HZ
- Large 240 X 64 Graphic LCD display
- Waveform distortion less than 1% on resistance load
- Enhanced crest factor. The rate is up to 3 : 1 at rating current output
- Fast recovering time, 0.4 milliseconds
- Line and load regulation maintains the output voltage within 1% of setting
- Programmable 50 memories and 9 steps per memory, for interconnection between each step to simulate different test conditions of the DUT
- Auto loop cycle, up to 999900 cycles
- For Aging or Life test on DUT, the user able to change the timer either in second, minute or hour
- Unique regulation function in providing capability to turn on high inrush current loads such as motors and compressors
- Capable to withstand inrush current up to 4 times of rated current and able to maintain 1000ms without protection
- Over Current Fold Back Mode (Response time < 1400mSec)
- Built-in PLC remote interface
- Protections and alerts for over current, short circuit, over voltage, over power, over temperature and reverse current
- Capable to set the starting angle, voltage dips, short interruptions and voltage variations
- Adjust voltage / frequency setting via Rotary Knob when output is turn ON
- Standard RS232 & GPIB interface, optional GPIB & Ethernet interface
- AC and DC output selection to fulfill the test application needs in several power modes
- Comprehensive measurement of V, Irms, Ipk, W, VA, VAR, PF, CF of current etc.
- Memory and keypad lock functions with password setting

Programmable 1 Phase / 3 Phase AC Power Source

[Specification]

MODEL		EAC-303			EAC-306					
INPUT										
Phase		1Ø			1Ø or 3Ø					
Voltage		200 - 240Vac ± 10%			1Ø : 200 - 240Vac ± 10% 3Ø3W : 200 - 240Vac ± 10% 3Ø4W : 346 - 416Vac ± 10%					
Frequency		47 - 63Hz								
Max. Current		23A			1Ø : 45A 3Ø3W : 26A 3Ø4W : 15A					
Power Factor		0.97								
AC OUTPUT										
Max Power	1Ø2W		3000VA			6000VA				
	1Ø3W		2000VA			4000VA				
	3Ø4W		3000VA			6000VA				
Max. Current (r.m.s)*†	1Ø2W	0 - 150V	27.6A			55.2A				
		0 - 300V	13.8A			27.6A				
	1Ø3W	0 - 150V	9.2A			18.4A				
		0 - 300V	4.6A			9.2A				
	3Ø4W	0 - 150V	9.2A			18.4A				
		0 - 300V	4.6A			9.2A				
	1Ø2W	0 - 150V	110.4A			220.8A				
		0 - 300V	55.2A			110.4A				
Inrush Current (peak)	1Ø3W	0 - 150V	36.8A			73.6A				
		0 - 300V	18.4A			36.8A				
	3Ø4W	0 - 150V	36.8A			73.6A				
		0 - 300V	18.4A			36.8A				
Phase		1Ø2W, 1Ø3W, 3Ø4W								
Total Harmonic Distortion (THD)		<0.5% (Resistive Load) at 40.0 - 70.0Hz and output voltage within the 80 - 140Vac at Low Range or the 160 - 280Vac at High Range. <1% (Resistive Load) at 70.1 - 1000Hz and output voltage within the 80 - 140Vac at Low Range or the 160 - 280Vac at High Range.								
Inrush Current		≥4								
Crest Factor		≥3								
Line Regulation		± 0.1V								
Load Regulation (Hardware)		± (1% of output +1V) at Resistive Load , < 400µS response time								
Load Regulation (Software)		± 0.2V, < 1s response time								
DC offset		≤ ±5mV								
SETTINGS										
Voltage	Range	1Ø2W	0.0 - 300VAC, 150 / 300V Auto Range							
		1Ø3W	0.0 - 300 VAC (phase), 0.0 - 600 VAC (line), 150 / 300V Auto Range							
		3Ø4W	0.0 - 300 VAC (phase), 0.0 - 520 VAC (line), 150 / 300V Auto Range							
	Resolution		0.1V							
Frequency	Accuracy		± (0.2% of setting + 3 counts)							
	Range		40 - 1000Hz Full Range Adjust							
	Resolution		0.1Hz at 40.0 - 99.9Hz , 1Hz at 100 - 1000Hz							
Starting & Ending Phase Angle	Accuracy		± 0.03% of setting							
	Range		0 - 359°							
	Resolution		1°							
Current Hi Limit (OC Fold=OFF) OC Fold Back (OC Fold = ON)	Accuracy		± 1° (45 - 65HZ)							
	Range	L	0.10 - 27.60A			0.10 - 55.20A				
		H	0.10 - 13.80A			0.10 - 27.60A				
		L	0.01 - 9.20A			0.01 - 18.40A				
	1Ø3W	H	0.01 - 4.60A			0.01 - 9.20A				
		L	0.01 - 9.20A			0.01 - 18.40A				
	3Ø4W	H	0.01 - 4.60A			0.01 - 9.20A				
		Resolution		0.01A						
Accuracy		± (2.0% of setting + 2 counts)								
OC Fold Back Response Time			< 1.4s							

Programmable 1 Phase / 3 Phase AC Power Source

MODEL		EAC-303		EAC-306	
DC OUTPUT					
Max. Power		3000W		6000W	
Max. Current	0 - 210V	14.4A		28.8A	
	0 - 420V	7.2A		14.4A	
Ripple & Noise (rms)	Range	L	< 700mV		
		H	< 1100mV		
Ripple and Noise (p-p)			< 4.0Vp-p		
SETTINGS					
Voltage	Range		0 - 210V / 0 - 420V Selectable		
	Resolution		0.1V		
	Accuracy		± (0.2% of setting + 3 counts)		
Current Hi Limit (OC Fold=OFF) OC Fold Back (OC Fold = ON)	5V - 210V		0.10 - 14.40A	0.10 - 28.80A	
	5V - 420V		0.10 - 7.20A	0.10 - 14.40A	
	Resolution		0.01A		
	Accuracy		± (2.0% of setting + 2 counts)		
MEASUREMENT					
Voltage (AC)	Range		0.0 - 420.0V		
	Resolution		0.1V		
	Accuracy		± (0.2% of reading + 3 counts) at Voltage > 5V		
Voltage (DC)	Range		0.0 - 420.0V		
	Resolution		0.1V		
	Accuracy		± (0.2% of reading + 5 counts) at Voltage > 5V		
Frequency	Range		0.0 - 1000Hz		
	Resolution		0.1Hz		
	Accuracy		± 0.1Hz (501 - 1000Hz, Accuracy ±0.2Hz)		
Current (AC)	1Ø2W		0.05A - 39.00A	0.05A - 78.00A	
	1Ø3W	L	0.005A - 1.200A	0.005A - 2.400A	
		H	1.00A - 13.00A	2.00A - 26.00A	
	3Ø4W	L	0.005A - 1.200A	0.005A - 2.400A	
		H	1.00A - 13.00A	2.00A - 26.00A	
	Resolution		L	0.001A	
	H		0.01A		
	1Ø2W		± (1% of reading + 5 counts) at 40.0 - 500Hz ± (1% of reading + 5 counts) at 501 - 1000Hz and CF < 1.5 ※ Current (peak) ≤ 82.8A at Voltage > 5V	± (1% of reading + 5 counts) at 40.0 - 500Hz ± (1% of reading + 5 counts) at 501 - 1000Hz and CF < 1.5 ※ Current (peak) ≤ 165.6A at Voltage > 5V	
			± (1% of reading + 5 counts) at 40.0 - 500Hz ± (1% of reading + 5 counts) at 501 - 1000Hz and CF < 1.5 ※ Current (peak) ≤ 3.6A at Voltage > 5V	± (1% of reading + 5 counts) at 40.0 - 500Hz ± (1% of reading + 5 counts) at 501 - 1000Hz and CF < 1.5 ※ Current (peak) ≤ 7.2A at Voltage > 5V	
			± (1% of reading + 5 counts) at 40.0 - 500Hz ± (1% of reading + 5 counts) at 501 - 1000Hz and CF < 1.5 ※ Current (peak) ≤ 27.6A at Voltage > 5V	± (1% of reading + 5 counts) at 40.0 - 500Hz ± (1% of reading + 5 counts) at 501 - 1000Hz and CF < 1.5 ※ Current (peak) ≤ 55.2A at Voltage > 5V	
			± (1% of reading + 5 counts) at 40.0 - 500Hz ± (1% of reading + 5 counts) at 501 - 1000Hz and CF < 1.5 ※ Current (peak) ≤ 3.6A at Voltage > 5V	± (1% of reading + 5 counts) at 40.0 - 500Hz ± (1% of reading + 5 counts) at 501 - 1000Hz and CF < 1.5 ※ Current (peak) ≤ 7.2A at Voltage > 5V	
Current (DC)	Range		0.05A - 19.50A	0.05A - 39.00A	
	Resolution		0.01A		
	Accuracy		± (1% of reading + 5 counts) at Voltage > 5V		

Programmable 1 Phase / 3 Phase AC Power Source

MODEL			EAC-303	EAC-306			
Current Peak	Range	102W	0.0A - 114.0A	0.0A - 228.0A			
		103W	0.0A - 38.0A	0.0A - 76.0A			
		304W	0.0A - 38.0A	0.0A - 76.0A			
	Resolution		0.1A				
	Accuracy		$\pm (1\% \text{ of reading} + 5 \text{ counts}) \text{ at } 40.0 - 70.0 \text{ Hz}$ $\pm (1.5\% \text{ of reading} + 10 \text{ counts}) \text{ at } 70.1 - 500 \text{ Hz}$ $\pm (1.5\% \text{ of reading} + 10 \text{ counts}) \text{ at } 501 - 1000 \text{ Hz and } \text{CF} < 1.5$ at Voltage > 5V				
	Power (AC)	102W	0W - 3900W	0W - 7800W			
		103W	0.0W - 120.0W	0.0W - 240.0W			
			100W - 1300W	200W - 2600W			
		304W	0.0W - 120.0W	0.0W - 240.0W			
			100W - 1300W	200W - 2600W			
		Resolution		0.1W 1W			
Power (DC)	Accuracy	102W	$\pm (2\% \text{ of reading} + 5 \text{ counts}) \text{ at } 40.0 - 500 \text{ Hz and } \text{PF} \geq 0.2$ $\pm (2\% \text{ of reading} + 15 \text{ counts}) \text{ at } 501 - 1000 \text{ Hz and } \text{PF} \geq 0.5$ at Voltage > 5V				
		103W	L	$\pm (2\% \text{ of reading} + 15 \text{ counts}) \text{ at } 40.0 - 500 \text{ Hz and } \text{PF} \geq 0.2$ $\pm (2\% \text{ of reading} + 30 \text{ counts}) \text{ at } 501 - 1000 \text{ Hz and } \text{PF} \geq 0.5$ at Voltage > 5V			
			H	$\pm (2\% \text{ of reading} + 5 \text{ counts}) \text{ at } 40.0 - 500 \text{ Hz and } \text{PF} \geq 0.2$ $\pm (2\% \text{ of reading} + 15 \text{ counts}) \text{ at } 501 - 1000 \text{ Hz and } \text{PF} \geq 0.5$ at Voltage > 5V			
		304W	L	$\pm (2\% \text{ of reading} + 15 \text{ counts}) \text{ at } 40.0 - 500 \text{ Hz and } \text{PF} \geq 0.2$ $\pm (2\% \text{ of reading} + 30 \text{ counts}) \text{ at } 501 - 1000 \text{ Hz and } \text{PF} \geq 0.5$ at Voltage > 5V			
			H	$\pm (2\% \text{ of reading} + 5 \text{ counts}) \text{ at } 40.0 - 500 \text{ Hz and } \text{PF} \geq 0.2$ $\pm (2\% \text{ of reading} + 15 \text{ counts}) \text{ at } 501 - 1000 \text{ Hz and } \text{PF} \geq 0.5$ at Voltage > 5V			
	Resolution		0.1W 1W				
Range			0W - 3900W	0W - 7800W			
Resolution			1W				
Accuracy			$\pm (2\% \text{ of reading} + 5 \text{ counts}) \text{ at Voltage} > 5V$				
Power Apparent (VA)	Range	102W	0VA - 3900VA	0VA - 7800VA			
		103W	0.0VA - 120.0VA	0.0VA - 240.0VA			
			100VA - 1300VA	200VA - 2600VA			
		304W	0.0VA - 120.0VA	0.0VA - 240.0VA			
	Resolution		100VA - 1300VA	200VA - 2600VA			
	Resolution		0.1VA 1VA				
Accuracy			VxA, Calculated value				
Power Reactive (Q)	Range	102W	0VAR - 3900VAR	0VAR - 7800VAR			
		103W	0.0VAR - 120.0VAR	0.0VAR - 240.0VAR			
			0VAR - 1300VAR	0VAR - 2600VAR			
		304W	0.0VAR - 120.0VAR	0.0VAR - 240.0VAR			
	Resolution		0VAR - 1300VAR	0VAR - 2600VAR			
	Resolution		0.1VAR 1VAR				
Accuracy			$\sqrt{(\text{VA})^2 - (\text{W})^2}$, Calculated value				
Power Factor	Range		0 - 1.000				
	Resolution		0.001				
	Accuracy		W / VA, Calculated and displayed to three significant digits				
Crest Factor	Range		0 - 10.00				
	Resolution		0.01				
	Accuracy		Ap / A, Calculated and displayed to two significant digits				

安規測試

交流電源

直流電子負載

附件

Programmable 1 Phase / 3 Phase AC Power Source

MODEL	EAC-303	EAC-306
GENERAL		
Transient (only for 40 - 70Hz)	Trans-Volt : 0.0 - 300.0V, Resolution 0.1V Trans-Site : 0° - 359°, Resolution 1° Trans-Time : 0.5 - 999.9mS, Resolution 0.1mS Trans-Cycle : 0 - 9999, 0 = Constant	
Operation Key Feature	Soft key, Numeric key, Rotary Knob.	
Remote Input Signal	Test, Reset, Interlock, Recall program memory 1 through 7	
Remote Output Signal	Pass, Fail, Test-in Process	
Key Lock	Yes, Password Driven	
Memory	50 memories, 9 steps / memory	
Synch Output Signal	ON / OFF / EVENT / Ext Trigger in the Program mode, Output Signal 5V, BNC type, Between the sync signal and the output voltage will be 0.5ms time difference	
Alarm Volume Setting	Range : 0 - 9 ; 0 = OFF, 1 is softest volume, 9 is loudest volume	
Graphic Display	240 x 64 dot resolution Monographic LCD / Contrast 9 Levels 1 - 9	
Interface (Option)	Ethernet, GPIB	
Protection Circuits	OCP, OVP, OPP, OTP, RCP (Over Current, Over Voltage, Over Power, Over Temp, Reserve Current)	
PFC	PF ≥ 0.97 at Full load	
Efficiency	≥78% (at Full load)	
Auto loop cycle	0 = Continuous, OFF, 2 - 9999	
V sense	Yes	
Over Current Fold Back	On / Off , Setting On when output current over setting Hi-A value it will fold back output voltage to keep constant output current is setting Hi-A value, Response time <1400ms	
CE Mark	Yes	
Operation Environment	0 - 40°C / 20 - 80% RH	
Dimension, mm ^{*2}	W	430
	H	402 (473)
	D	500 (530)
Weight	48kg	57kg

^{*1} At working voltage 110V / 220V^{*2} Figure in parentheses are maximum values

*Product specifications are subject to change without notice.

[Ordering Information]

- EAC-303 Programmable AC Power Source 0 - 300V / 40 - 1000Hz (3KVA)
- EAC-306 Programmable AC Power Source 0 - 300V / 40 - 1000Hz (6KVA)
- EAC-303S AC Power Source 0 - 300V / 40 - 500Hz (3KVA)
- EAC-306S AC Power Source 0 - 300V / 40 - 500Hz (6KVA)
- Opt.627 GPIB Interface Card
- Opt.643 USB & RS232 PC Control Card
- Opt.647 Ethernet Card