

3270 系列

交/直流电子负载



AC & DC ELECTRONIC LOAD



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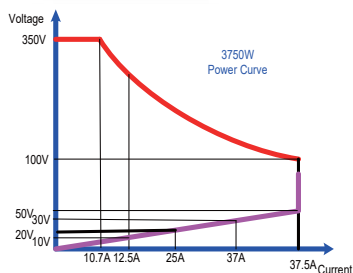
MODEL		3270	3271	3272	3273	3274
Power (W)	Turbo OFF	3750 W	2800W	1875 W	3750 W	2800W
	Turbo ON	7500W (x2)*	5600W (x2)*	3750W (x2)*	7500W (x2)*	5600W (x2)*
Current(Ampere)	Turbo OFF	37.5 Arms / 112.5Apeak	28 Arms / 84Apeak	18.75 Arms / 56.25Apeak	28 Arms / 84Apeak	18.75 Arms / 56.25Apeak
	Turbo ON	75.0Arms/112.5Apeak (x2)*	56Arms/84Apeak (x2)*	37.5Arms/56.25Apeak (x2)*	56Arms/84Apeak (x2)*	37.5Arms/56.25Apeak (x2)*
Voltage(Volt)		50~350Vrms / 500Vdc			50~480Vrms / 700Vdc	

MODEL		32701	32702	32703	32704	32705
Power (W)	Turbo OFF	7500 W	11250W	15000W	18750W	22500W
	Turbo ON	15000W (x2)*	22500W (x2)*	30000W (x2)*	37500W (x2)*	45000W (x2)*
Current(Ampere)	Turbo OFF	75.0 Arms / 225Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak
	Turbo ON	150.0Arms/225Apeak (x2)*	225Arms/337.5Apeak (x2)*	225Arms/337.5Apeak (x2)*	225Arms/337.5Apeak (x2)*	225Arms/337.5Apeak (x2)*
Voltage(Volt)		50~350Vrms / 500Vdc				

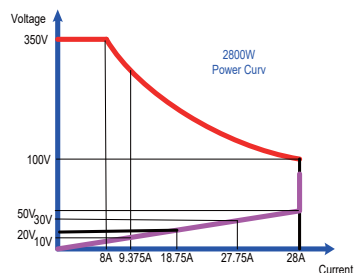
MODEL		32711
Power (W)	Turbo OFF	5600 W
	Turbo ON	11200W (x2)*
Current(Ampere)	Turbo OFF	56.0 Arms / 168Apeak
	Turbo ON	112.0Arms/ 168Apeak (x2)*
Voltage(Volt)		50~350Vrms / 500Vdc

* Turbo ON 功率与电流提升的倍数

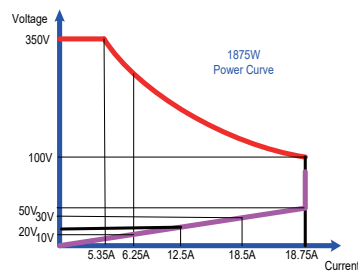
功率曲线



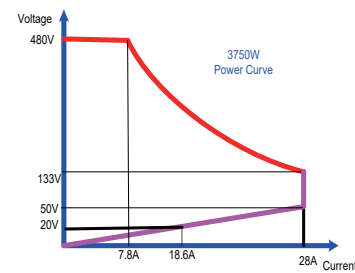
3270 功率曲线图



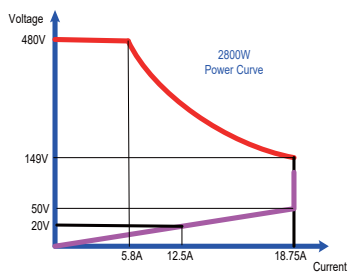
3271 功率曲线图



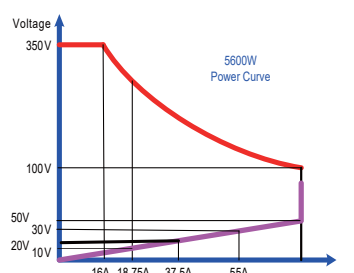
3272 功率曲线图



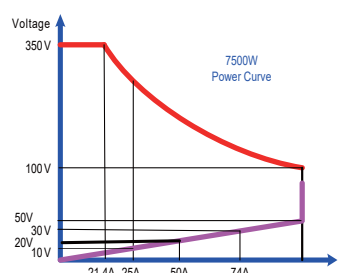
3273 功率曲线图



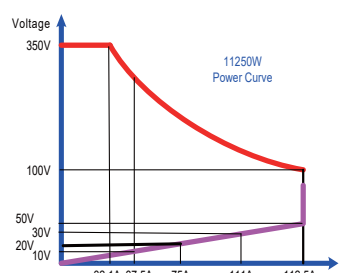
3274 功率曲线图



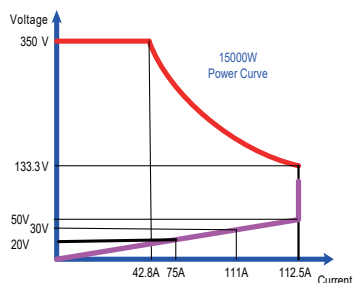
32711 功率曲线图



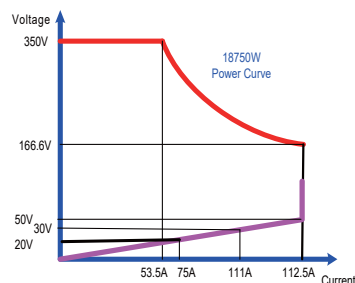
32701 功率曲线图



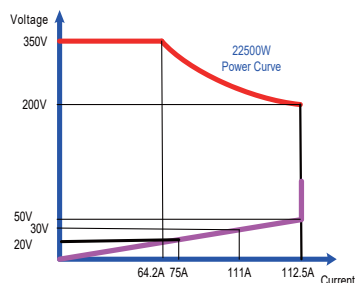
32702 功率曲线图



32703 功率曲线图



32704 功率曲线图



32705 功率曲线图

特 性

- 四个电表可同时显示电压值 (Vrms, Vpeak, Vmax., Vmin)、电流值(Irms, Ipeak, Imax., Imin.)、瓦特值、伏安值(VA)、频率值、峰值因素、功率因素、电压失真度(VTHD, VH)、电流失真度(ITHD, IH)等。
- 交/直流负载具定电流、线性定电流、定电阻、定电压、定功率及整流性负载等工作模式。
- **选购电压：425Vrms / 600Vdc (3273 / 3274 除外)**
- 峰值因素范围：1.414~5.0。
- 功率因素范围：0~1 超前或落后。
- 内建测试模式包括UPS Efficiency, PV Inverter Efficiency, UPS Back-up time, Battery Discharge time, UPS transfer time, Fuse/Breaker Trip/Non-Trip, 短路模拟, OCP, OPP 等测试模式。
- **Turbo mode (倍增模式)**，能够在短时间内承受多达2倍电流与功率的电子负载，最适合Fuse / Breaker 及交流电源的短路、OCP、OPP测试。
- 时间量测可应用于电池、UPS、保险丝和断路器等测试。
- 高达八台的并联最高可达 90KW及三相△或Y的负载同步控制。
- 支援带载开机；先设定Load ON 便可支持带载开机，逆变器或不断电电源开机时便直接带着所设定负载电流开机，用来验证Inverter连接电器时启动是否稳定。
- 支援抽载与卸载角度控制；吃载卸载角度控制，0-359度全范围都可设定，用来验证实际电器插拔时，Inverter 输出电压暂态反应是否稳定，Overshoot/Undershoot 是否在容许范围内。
- 支援正半周或负半周抽载；用来验证实际电器只有正半周或负半周负载电流时，Inverter输出电压是否维持稳定。
- 支援SCR/TRIAC的电流调变波形，90度Trailing edge及Leading Edge。
- 支援电源供应器于开机时之电容性负载 (Inrush Current) 与运行中负载突然接入 (Hot Plug-in) 时的瞬间电流 (Surge Current) 测试。
- 频率范围：DC, 40~440Hz
- 电压, 电流监控。
- 外部电压控制定电流、线性定电流、定电阻、定电压、定功率等工作模式。
- 过电压警示、过电流、过功率、过温度保护。
- GPIB、RS-232、USB、LAN 控制介面。
- **最齐全的量测功能**

3270 系列交/直流电子负载内建16位元A/D及DSP等精准的量测电路，提供了精确的量测值，量测项目共有电压均方根值(Vrms)、电流均方根值(Arms)、瓦特值(Watt)、伏安(VA)、波峰因素(CF)、功率因素(PF)、总谐波失真率(THD)、电压总谐波失真率(VTHD)、电流总谐波失真率(ITHD)、峰值电流(Ipeak)、电流最大值(Amax)、电流最小值(Amin)、电压最大值(Vmax)、电压最小值(Vmin)。

除了这些量测功能外，亦提供了时间量测，产品如 UPS、保险丝及断路器等跳脱或熔断时间及 Off-line UPS 的转换时间(Transfer time)。

订 购 方 式



选购介面：① GPIB Card ② RS232 Card ③ USB Card ④ LAN Card

选购功能：External programming input *下订单时需选购，无法出货后加购*

- 3270 350V, 37.5A, 3750W
- 3271 350V, 28A, 2800W
- 3272 350V, 18.75A, 1875W
- 3273 480V, 28A, 3750W
- 3274 480V, 18.75A, 2800W



32711
350V, 56A, 5600W



32701
350V, 75A, 7500W



32702
350V, 112.5A, 11250W



32703
350V, 112.5A, 15000W

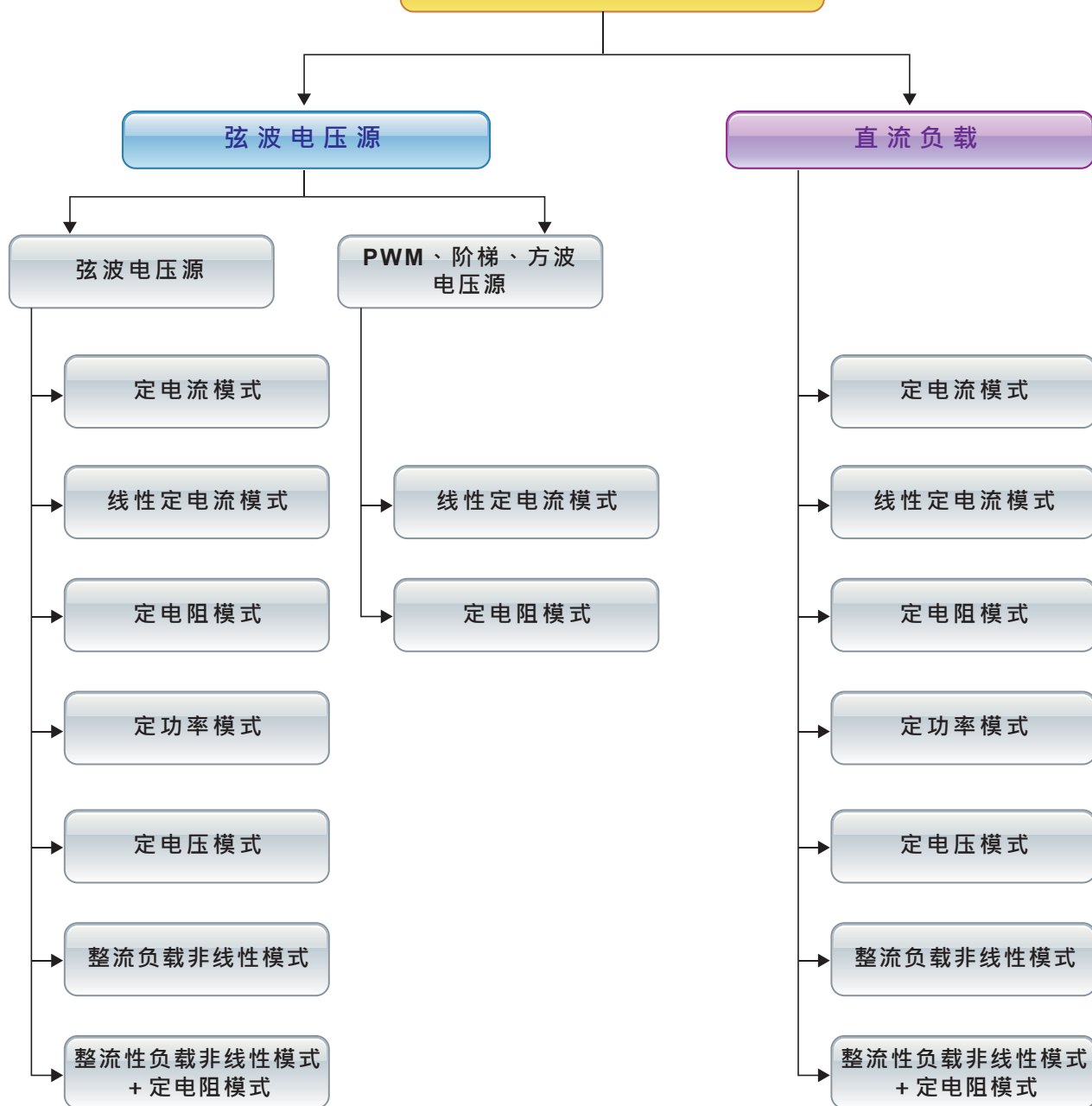


32704
350V, 112.5A, 18750W



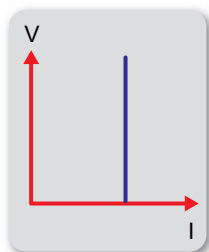
32705
350V, 112.5A, 22500W

Model 3270 系列 操作模式

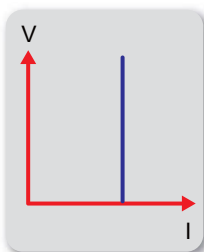


● 交流负载模式

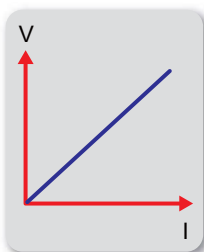
定电流模式



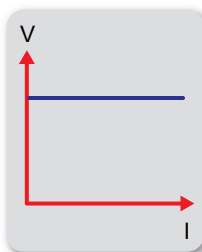
线性定电流模式



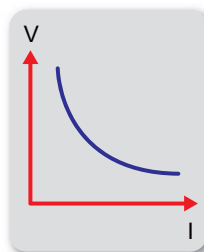
定电阻模式



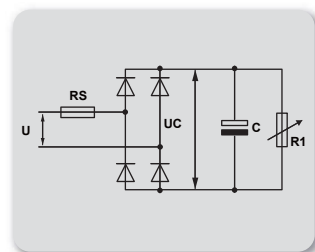
定电压模式



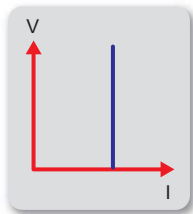
定功率模式



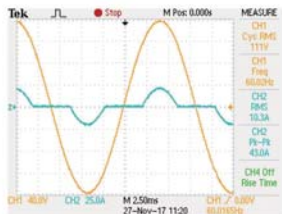
整流性负载模式



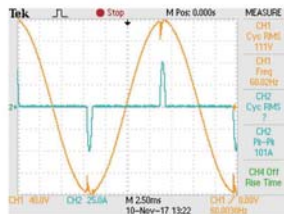
- **定电流模式**：在交流负载的定电流模式，仅适用于弦波电压源，提供线性负载的CF，PF测试。



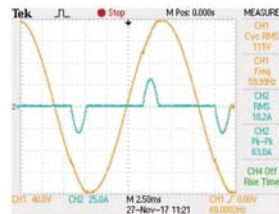
CC mode



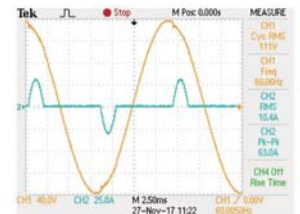
CC mode, CF=2



CC mode, CF=5

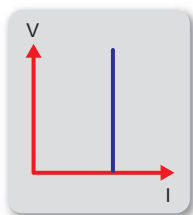


CC mode, PF= +0.5



CC mode, PF= -0.5

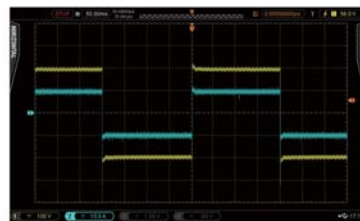
- **线性定电流模式**：可以适用于弦波与非弦波电压源，如下图所示的 PWM 变频驱动器，阶梯(Step) 电压源，及 UPS 弦波变方波，方波变弦波。



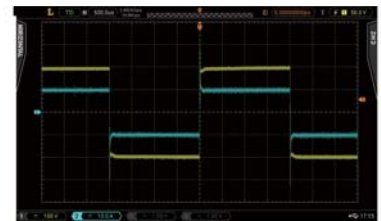
Linear CC mode



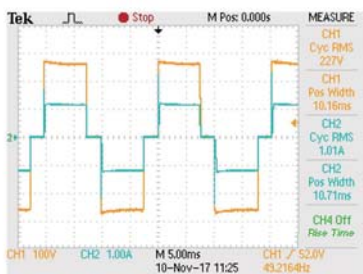
Linear CC mode, PWM 10A 2.5Hz to 250Hz



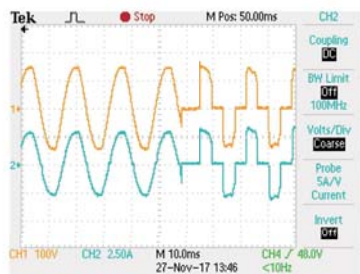
Linear CC mode, PWM 10A 2.5Hz



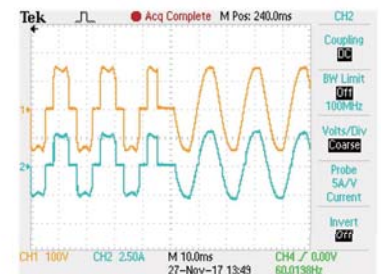
Linear CC mode, PWM 10A 250Hz



Linear CC mode, Step 10A

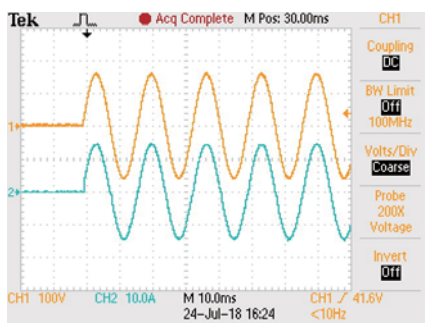


Linear CC mode, UPS Sine to Square waveform

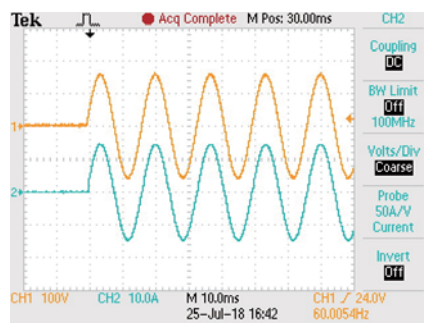


Linear CC mode, UPS Square to Sine waveform

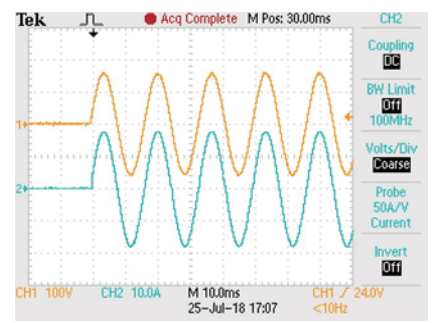
- **支援带载开机**：模拟待测物直接插入(Plug-in) 抽载；先设定Load ON 便可支持带载开机，逆变器或不断电电源开机时便直接带着所设定负载电流开机，用来验证Inverter连接电器时启动是否稳定。



CC 10A 带载开机

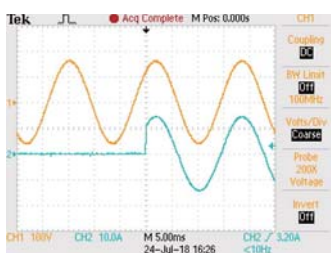


CR 10A 带载开机

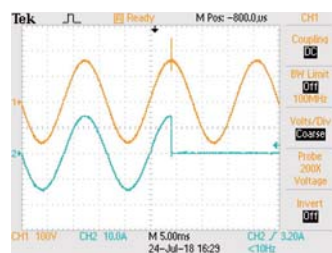


CV 10A 带载开机

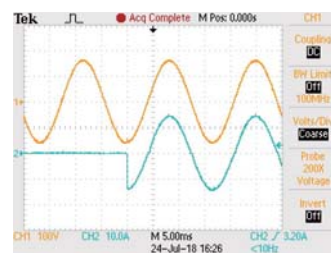
- **支援抽载与卸载角度控制**：吃载卸载角度控制，0-359度全范围都可设定，用来验证实际电器插拔时，Inverter 输出电压暂态反应是否稳定，Overshoot / Undershoot 是否在容许范围内。



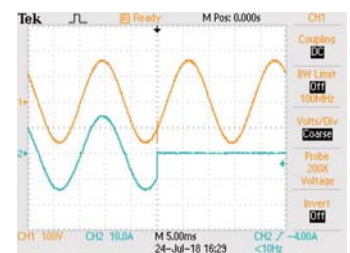
45度抽载



90度卸载

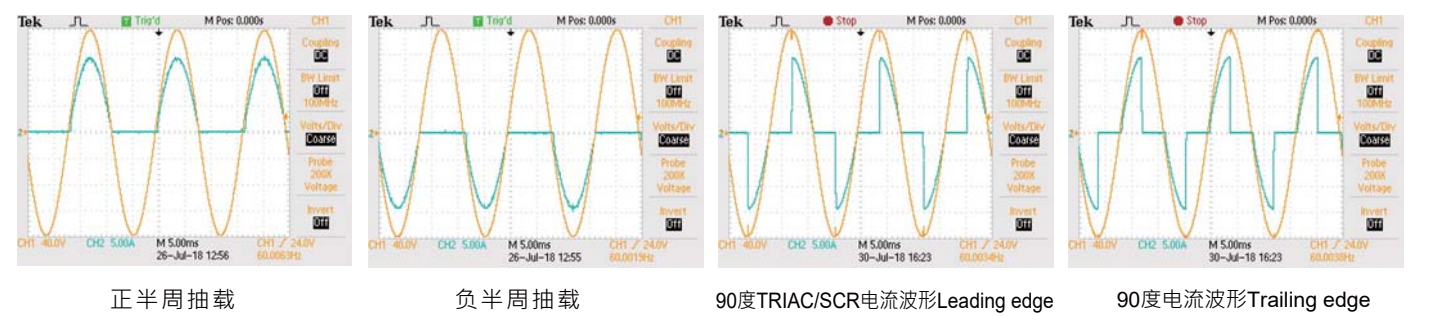


270度抽载



315度卸载

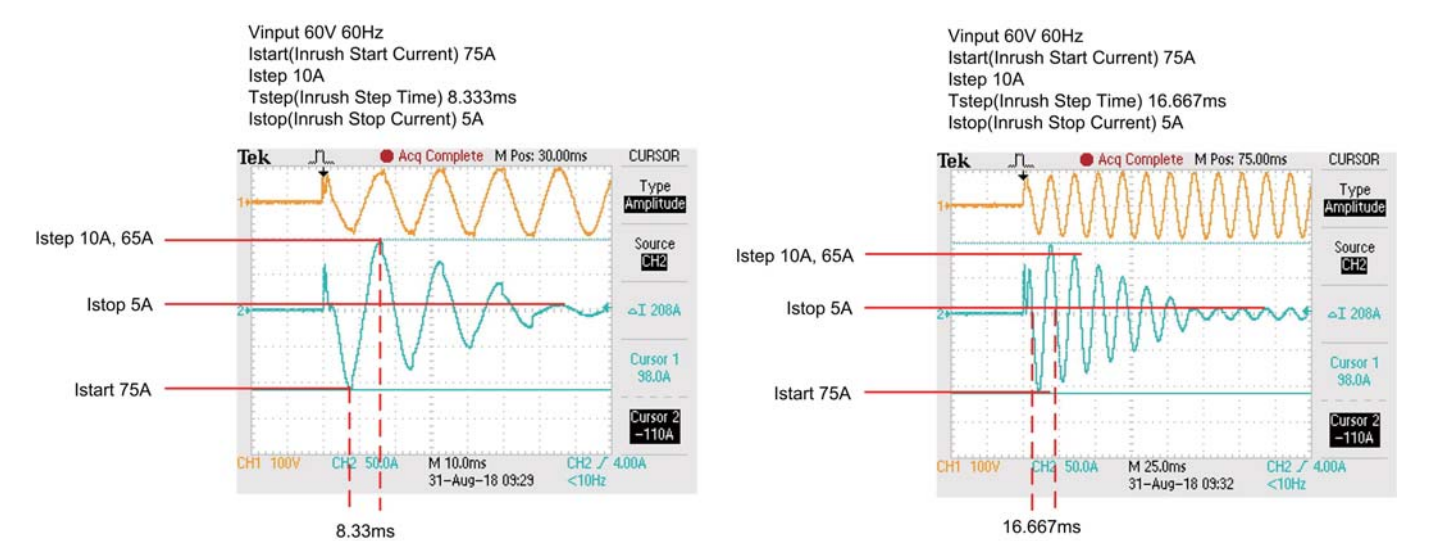
- 支援正半周与负半周抽载及SCR/TRIAC的电流调变波形，90度Trailing edge及Leading Edge；用来验证实际电器只有正半周或负半周及SCR/TRIAC负载电流时，Inverter输出电压是否维持稳定。



- 支援电源供应器于开机时之电容性负载（Inrush Current）与运行中负载突然接入（Hot Plug-in）测试用来验证电器在开机时的瞬间启动电流（Inrush Current）及电器突然接上（Surge Current）时，Inverter输出电压暂态反应是否稳定，如下图所示。

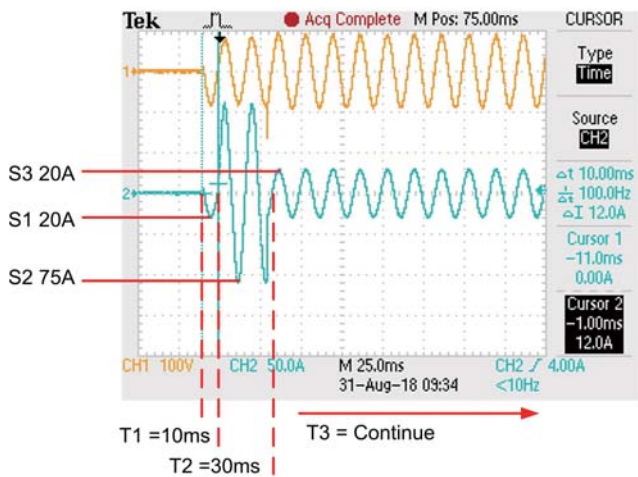
MODEL	3270	3271	3272	3273	3274
Programmable Inrush current simulation: Istart - Istop / Tsep					
Istart, Inrush Start Current	0~75A	0~56A	0~37.5A	0~56A	0~37.5A
Inrush Step time	0.1mS~100mS				
Istop, Inrush stop current	0~37.5A	0~28A	0~18.75A	0~28A	0~18.75A
Programmable Surge current simulation: S1/T1 - S2/T2 - S3/T3					
S1 and S2 Current	0~75A	0~56A	0~37.5A	0~56A	0~37.5A
T1 and T2 Time	0.01S~0.5Sec.				
S3 Current	0~37.5A	0~28A	0~18.75A	0~28A	0~18.75A
T3 Time	0.01S ~ 9.99Sec. Or Cont.				

MODEL	32701	32702	32703	32704	32705	32711
Programmable Inrush current simulation: Istart - Istop / Tsep						
Istart, Inrush Start Current	0~150A	0~225A	0~225A	0~225A	0~225A	0~112.0A
Inrush Step time	0.1mS~100mS					
Istop, Inrush stop current	0~75A	0~112.5A	0~112.5A	0~112.5A	0~112.5A	0~56A
Programmable Surge current simulation: S1/T1 - S2/T2 - S3/T3						
S1 and S2 Current	0~150A	0~225A	0~225A	0~225A	0~225A	0~112.0A
T1 and T2 Time	0.01S~0.5Sec.					
S3 Current	0~75A	0~112.5A	0~112.5A	0~112.5A	0~112.5A	0~56A
T3 Time	0.01S ~ 9.99Sec. Or Cont.					

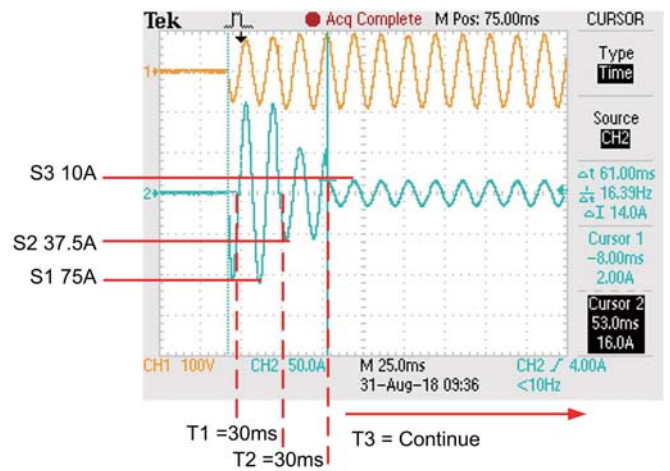


开机时的瞬间启动电流（Inrush Current）测试

Vinput 60V, 60Hz
S1(Surge current 1) 20A, T1 (Tstep 1) 0.01 Sec.
S2(Surge current 2) 75A, T2 (Tstep 2) 0.03 Sec.
S3(Surge current 3) 20A, T3 (Tstep 3) continue



Vinput 60V, 60Hz
S1(Surge current 1) 75A, T1 (Tstep 1) 0.03 Sec.
S2(Surge current 2) 37.5A, T2 (Tstep 2) 0.03 Sec.
S3(Surge current 3) 10A, T3 (Tstep 3) continue



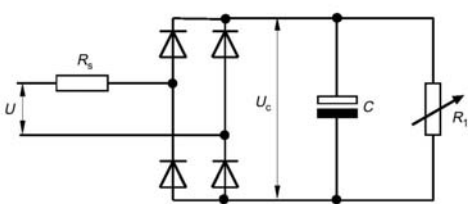
电器突然接上时的瞬间突波电流 (Surge Current) 测试

交流整流负载模拟符合 IEC62040-3 and IEC61683 测试规范

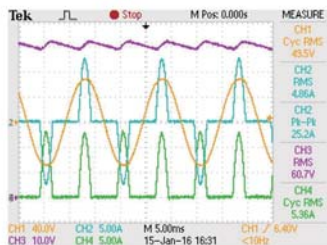
3270系列 AC/DC 电子负载的交流整流模式，完全符合 IEC 对 UPS及 PV Inverter 的测试规范要求，分别是 IEC62040-3 UPS Efficiency Measurement non-Linear and IEC61683 Resistive Plus Non-Linear。

3270系列的交流整流性负载模式，是使用CC+CR负载模式并维持电流的THD 在80%，来模拟实际PV Inverter所连接的电子设备。

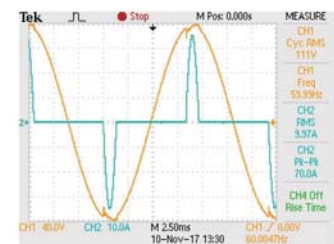
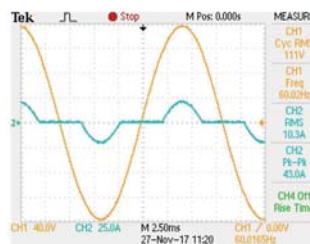
整流性负载模式



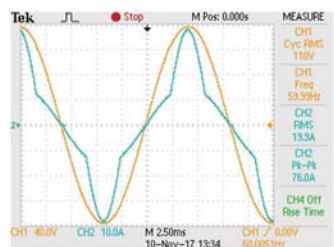
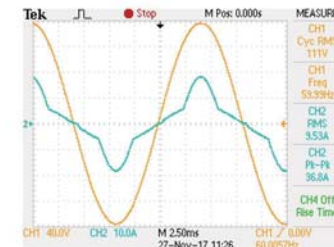
IEC 508/99



实际的 V/A 波形



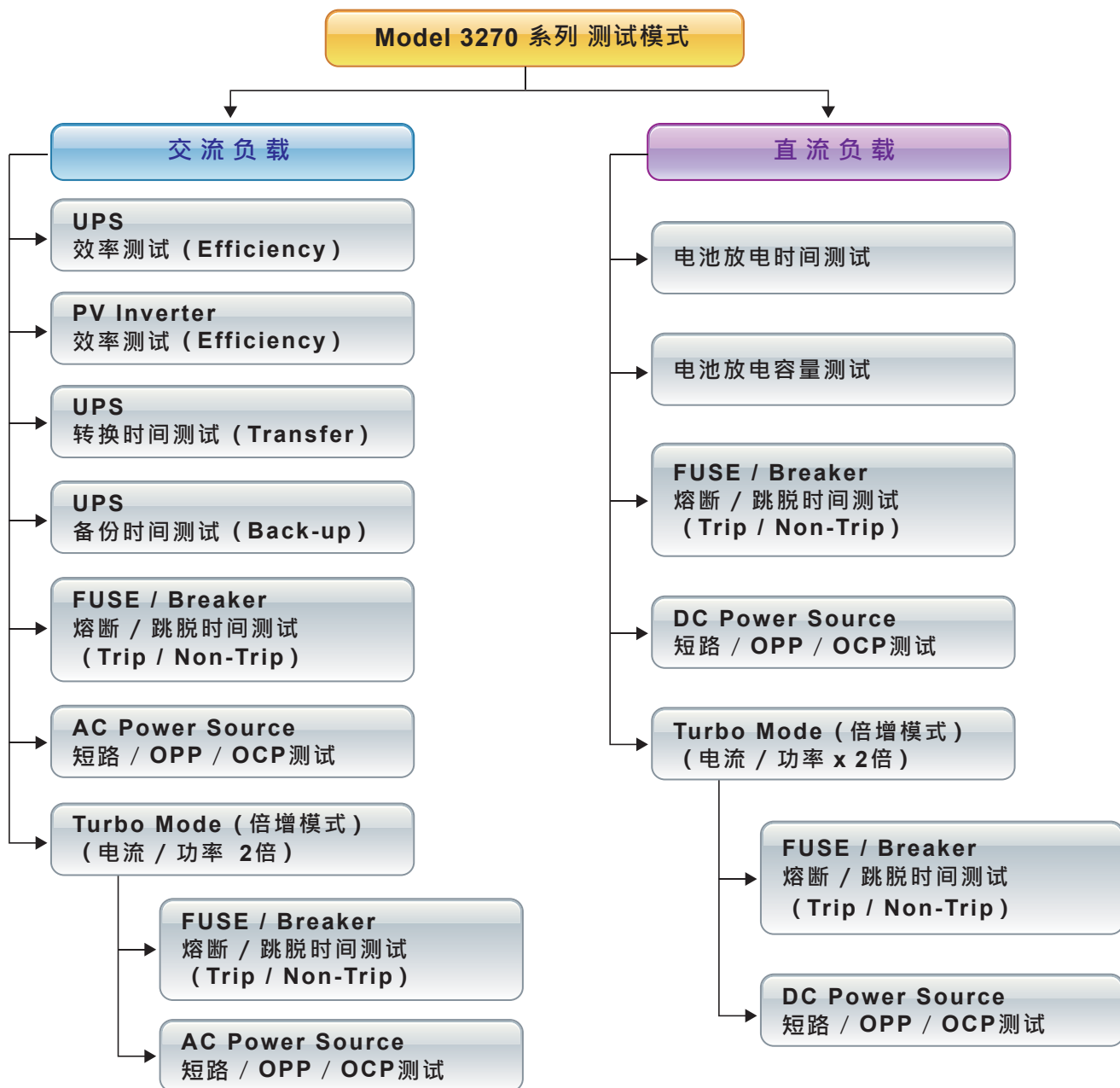
UPS 测试的 Non-Linear CC mode



110V, 5A + 22ohm Test Waveform 110V, 10A + 11ohm Test Waveform
PV Inverter 测试的 Non-Linear CC + Resistive mode (CC+CR)

3270 负载的各种测试模式

3270 系列AC/DC 电子负载特别内建各种产品所需的测试模式，包括交流部分的UPS, Inverter, Fuse/Breaker, AC Power Source，及直流部份的 Battery, Fuse/Breaker, DC Power Source等，如下图所示。



电流保护元件测试

电流保护元件包括Fuse 保险丝，Breaker断路器及新型的PTC Resettable fuse自恢复保险丝等，其作用是当电路电流超过设计的额定值时，也就是负荷超过设计的电流容量时便将电路断开。以避免发生过热、甚至着火，起火等危险。上述保护元件中Fuse是一次性使用，Breaker与PTC就可以重覆使用。

电流保护元件的保护电流值与保护反应时间通常是具有乘积的关系，也就是通过电流保护元件的电流愈大，则其保护断路的反应时间就愈短，这就类似是能量保护元件。

针对这样的特性，3270系列交直流电子负载特别针对电流保护元件的测试验证开发出Fuse Test功能，就能够用一额定电流与功率的电子负载来测试验证此类保护元件。当 Turbo mode(倍增模式) 设置为 ON 时，在1秒的测试时间内，测试电流可以倍增到最大电流的2倍，以3270为例，最大测试电流可倍增为 75A，也就是使用3270系列的Turbo mode为ON时，于1秒测试时间内就可以达到2台3270系列的测试电流值。



Fuse



Breaker



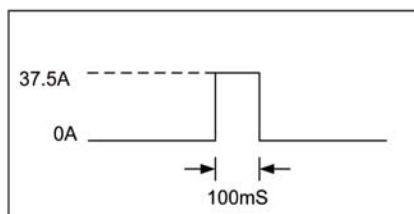
PTC

MODEL		3270	3271	3272	3273	3274
Power (W)		3750 W	2800W	1875 W	3750 W	2800W
Current(Ampere)		37.5 Arms / 112.5Apeak	28 Arms / 84Apeak	18.75 Arms / 56.25Apeak	28 Arms / 84Apeak	18.75 Arms / 56.25Apeak
Voltage(Volt)		50~350Vrms / 500Vdc			50~480Vrms / 700Vdc	
FREQUENCY Range		DC,40~440Hz (CC,CP Mode) , DC~440Hz (LIN,CR,CV Mode)			DC,40~70Hz(CC,CP Mode) , DC~70Hz(LIN,CR,CV Mode)	
Fuse Test mode						
Max. Current	Turbo OFF(CC1~3)	37.5Arms	28.0Arms	18.75Arms	28.0Arms	18.75Arms
	Turbo ON(CC3)					
	Turbo ON(CC1~2)					
Trip & Non-Trip Time	Turbo OFF(Time1~3)	0.01~333.33sec.				
	Turbo ON(Time1~2)	0.01~0.50sec.				
	Turbo ON(Time3)	0.01~600.00sec.				
OFF Time		0.1~999.9 Sec.				
Meas. Accuracy		±0.003 Sec.				
Repeat Cycle		0~99999				
Short/OPP/OCF Test Function						
Short Time	Turbo OFF	0.1S ~ 10Sec. Or Cont.				
	Turbo ON	0.1S ~ 1Sec				
OPP/OCF Step Time	Turbo OFF	100ms				
	Turbo ON	100ms, up to 10 Steps				
OCP Istop	Turbo OFF	37.5Arms	28.0Arms	18.75Arms	28.0Arms	18.75Arms
	Turbo ON	75.0Arms ^{*3}	56.0Arms ^{*3}	37.5Arms ^{*3}	56.0Arms ^{*3}	37.5Arms ^{*3}
OPP Pstop	Turbo OFF	3750W	2800W	1875W	3750W	2800W
	Turbo ON	7500W	5600W	3750W	7500W	5600W

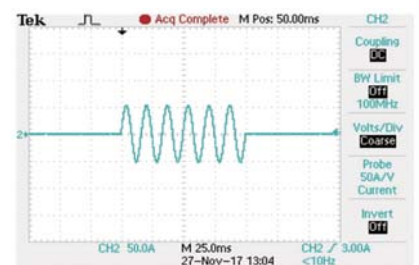
MODEL		32711	32701	32702	32703	32704	32705
Power (W)		5600 W	7500 W	11250W	15000W	18750W	22500W
Current(Ampere)		56 Arms / 168Apeak	75 Arms / 225Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak
Voltage(Volt)		50~350Vrms / 500Vdc					
FREQUENCY Range		DC,40~440Hz (CC,CP Mode) , DC~440Hz (LIN,CR,CV Mode)					
Fuse Test mode							
Max. Current	Turbo OFF(CC1~3)	56Arms	75Arms	112.5Arms	112.5Arms	112.5Arms	112.5Arms
	Turbo ON(CC3)						
	Turbo ON(CC1~2)						
Trip & Non-Trip Time	Turbo ON(CC1~2)	112Arms (x2) *3	150Arms (x2) *3	225Arms (x2) *3	225Arms (x2) *3	225Arms (x2) *3	225Arms (x2) *3
	Turbo OFF(Time1~3)	0.01~333.33sec.					
	Turbo ON(Time1~2)	0.01~0.50sec.					
	Turbo ON(Time3)	0.01~600.00sec.					
OFF Time		0.1~999.9 Sec.					
Meas. Accuracy		±0.003 Sec.					
Repeat Cycle		0~99999					
Short/OPP/OCF Test Function							
Short Time	Turbo OFF	0.1S ~ 10Sec. Or Cont.					
	Turbo ON	0.1S ~ 1Sec					
OPP/OCF Step Time	Turbo OFF	100ms					
	Turbo ON	100ms, up to 10 Steps					
OCF Istop	Turbo OFF	56Arms	75Arms	112.5Arms	112.5Arms	112.5Arms	112.5Arms
	Turbo ON	112Arms	150Arms	225Arms	225Arms	225Arms	225Arms
OPP Pstop	Turbo OFF	5600W	7500W	11250W	15000W	18750W	22500W
	Turbo ON	11200W	15000W	22500W	30000W	37500W	45000W



Turbo OFF, Short 100ms 37.5A 测试结果画面



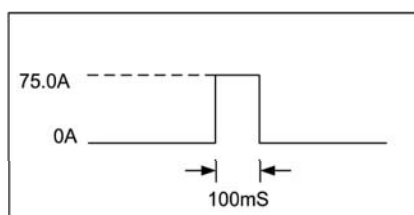
Turbo OFF, Short 100ms 37.5A 设置



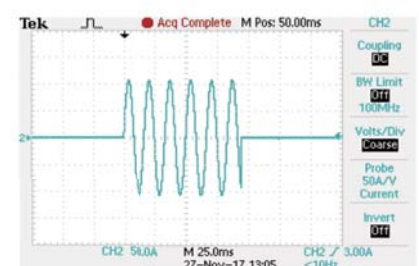
Turbo OFF, Short 100ms 37.5A
实际测试波形



Turbo ON, Short 100ms 75.0A 测试结果画面



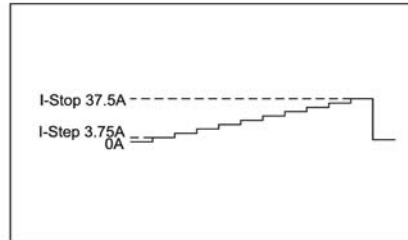
Turbo ON, Short 100ms 75.0A 设置



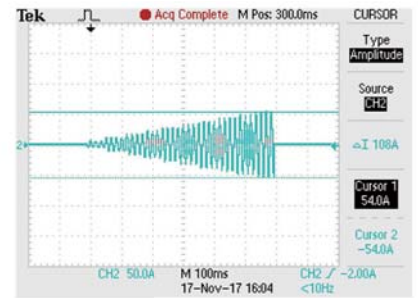
Turbo ON, Short 100ms 75.0A
实际测试波形



Turbo OFF, OCP Istep 3.75 A Istop 37.5A
测试结果画面



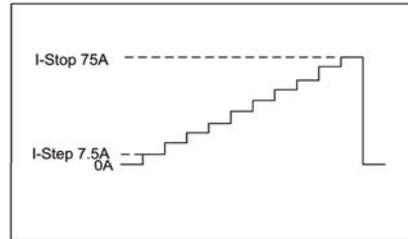
Turbo OFF, OCP Istep 3.75 A Istop 37.5A
设置



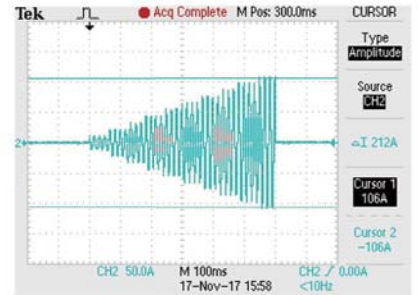
Turbo OFF, OCP Istep 3.75 A Istop 37.5A
实际测试波形



Turbo ON, OCP Istep 7.5 A Istop 75A
测试结果画面



Turbo ON, OCP Istep 7.5 A Istop 75.0A
设置



Turbo ON, OCP Istep 7.5 A Istop 75.0A
实际测试波形

Fuse Test基本上分为Trip (熔断) 与Non-Trip (没有熔断) 2种。

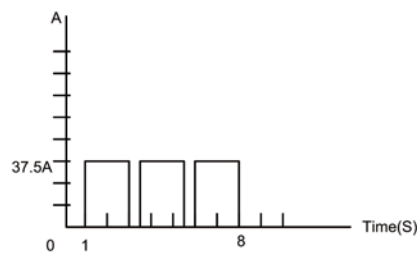
Fuse Test设定参来包括测试电流 (Istart) , 测试时间 (Time) , 测试重覆次数REPEAT TIME等。

在Trip熔断测试下, 是用来测试电流过大异常发生时必须能够提供断路的保护能力, 表示电流保护元件需熔断的动作, 因此测试电流需要大于熔断的电流规格, 当3270系列电子负载侦测到电压低于1.0V, LCD就显示Repeat次数及电流保护元件的熔断时间 XXXX.X sec.。

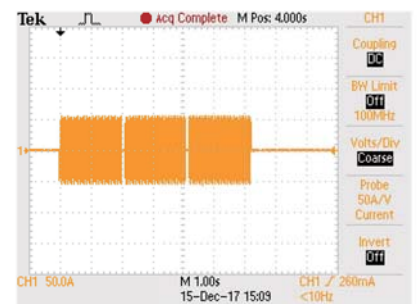
在Non-Trip测试下, 表示电流保护元件需达到不熔断的动作, 因此测试电流需要低于熔断的电流规格, 用来验证在正常电流范围内就必须不熔断, 当3270系列电子负载在测试时间 (Pulse Time) 与重覆Repeat次数结束后都没熔断, LCD显示Repeat次数的资讯。



Turbo : OFF, Fuse mode 测试结果画面



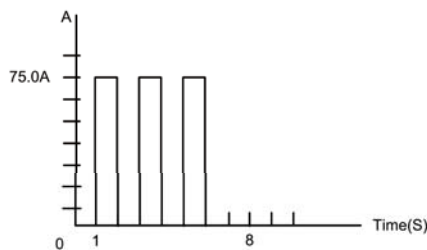
设置 : Turbo : OFF, Fuse ON,
CC pulse 37.5A, 2S, 测试3次



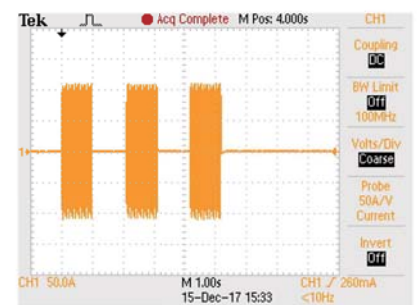
Turbo : OFF, Fuse ON,
CC pulse 37.5A, 2S, 测试3次实际测试波形



Turbo : ON, Fuse mode 测试结果画面



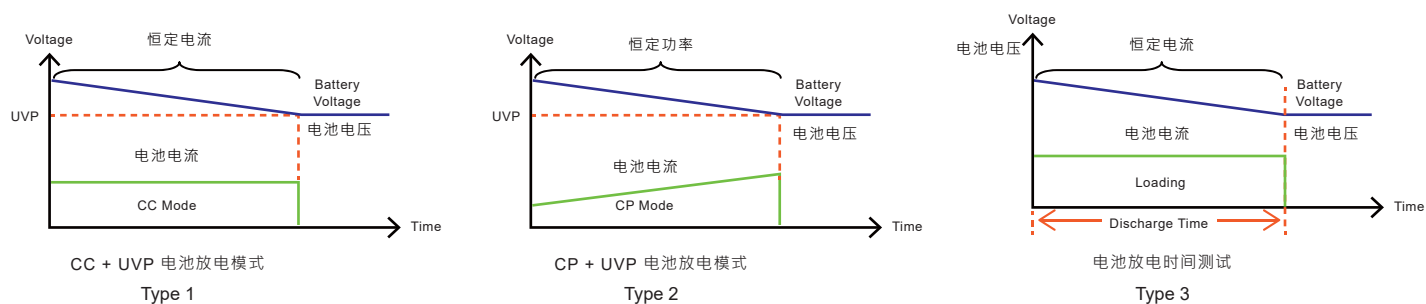
设置 : Turbo : ON, Fuse ON,
CC pulse 75.0A, 1S, 测试3次



Turbo : ON, Fuse ON,
CC pulse 75A, 1S, 测试3次实际测试波形

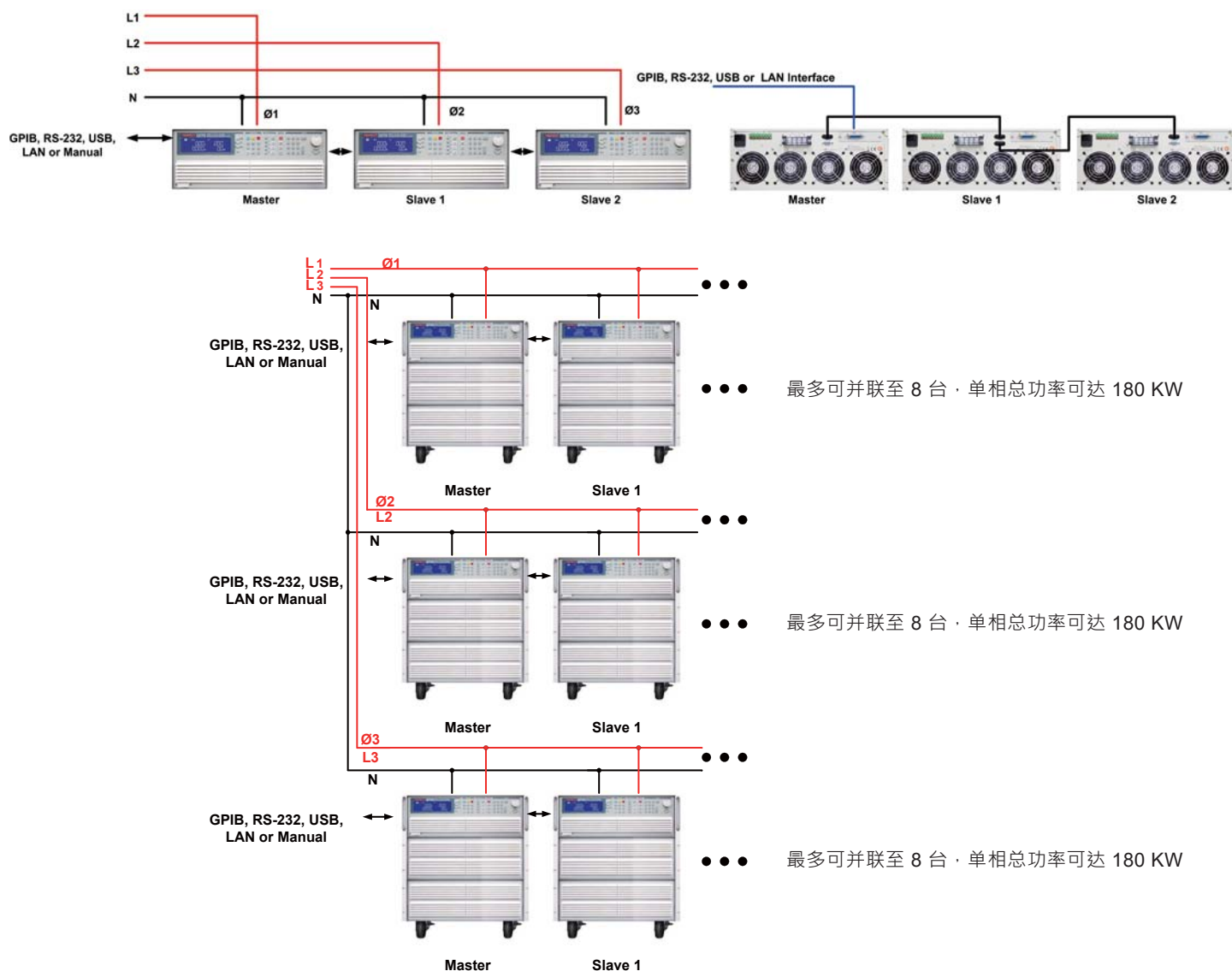
电池测试功能

3270系列负载新增TYPE1~TYPE3共二种电池放电测试，可以依需要选择适当的电池测试模式，测试结果可以直接在LCD显示器上显示电池的AH容量、放电后的电压值、放电的累计时间等数据。

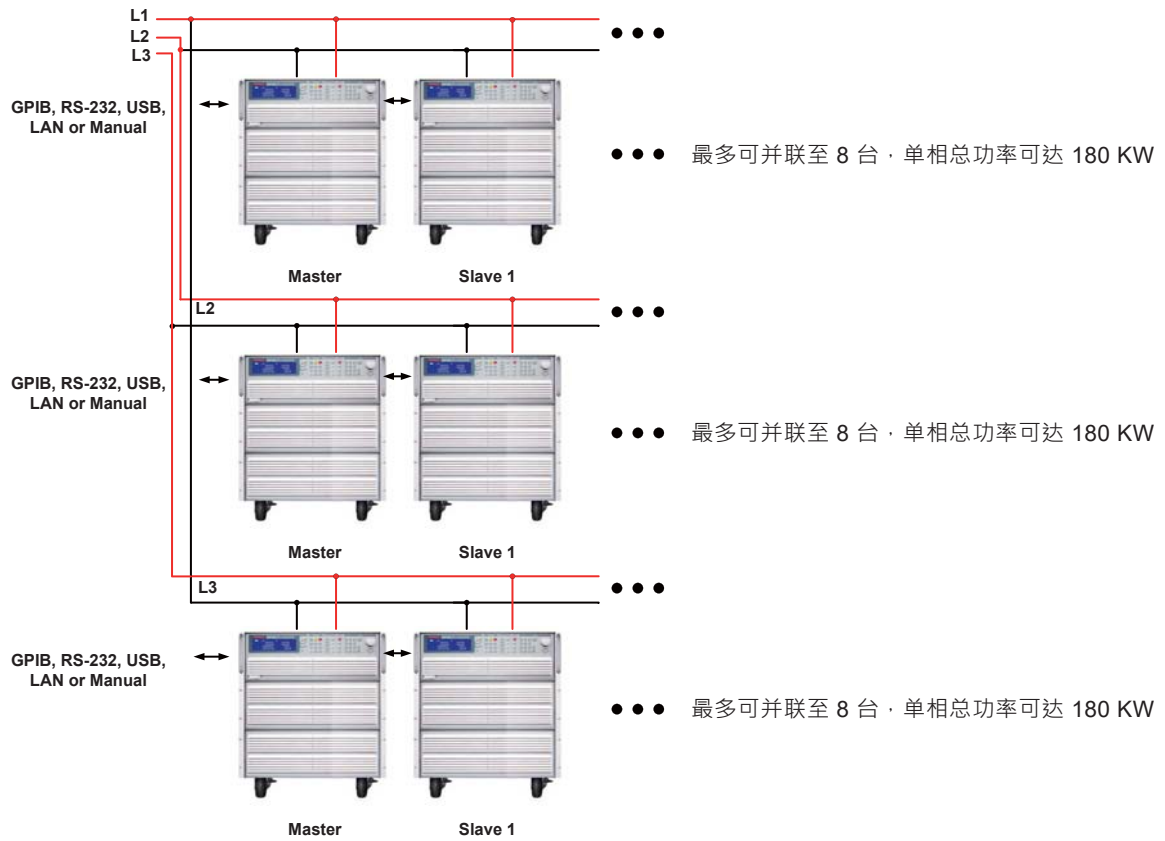
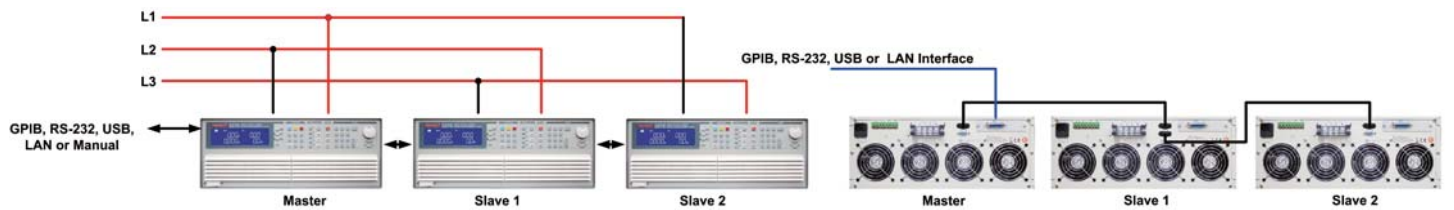


并联及三相控制

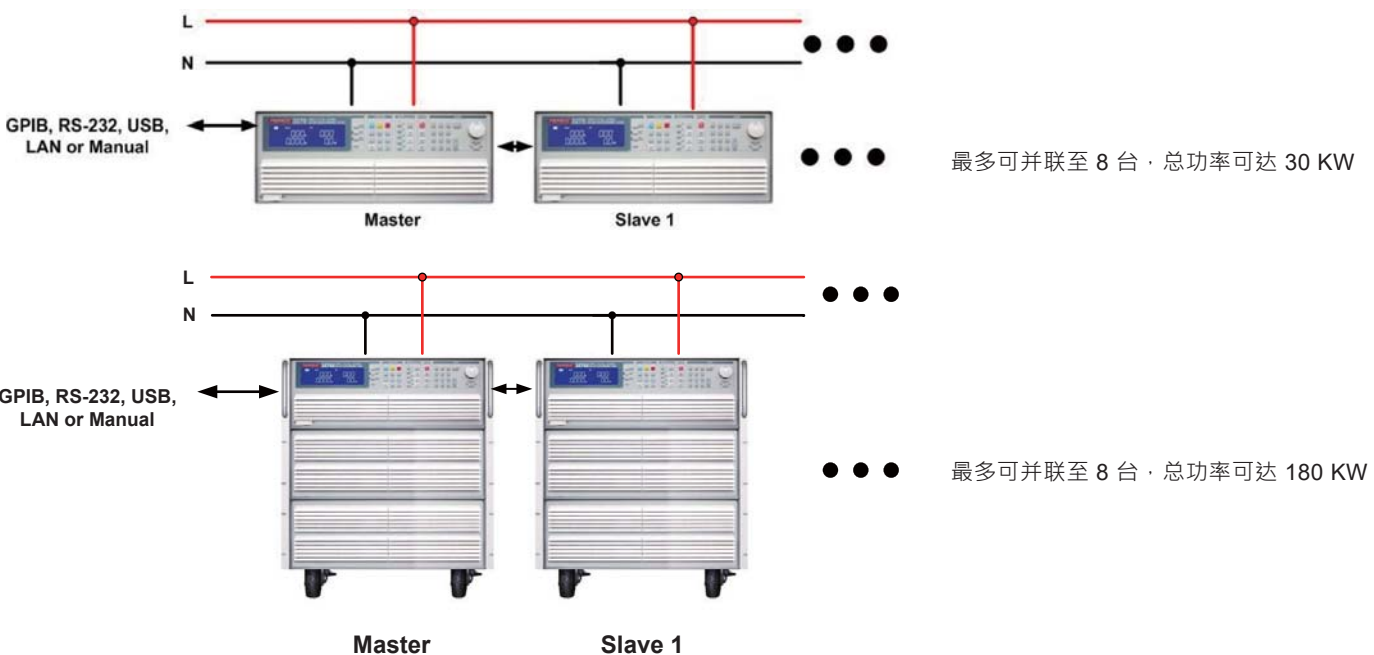
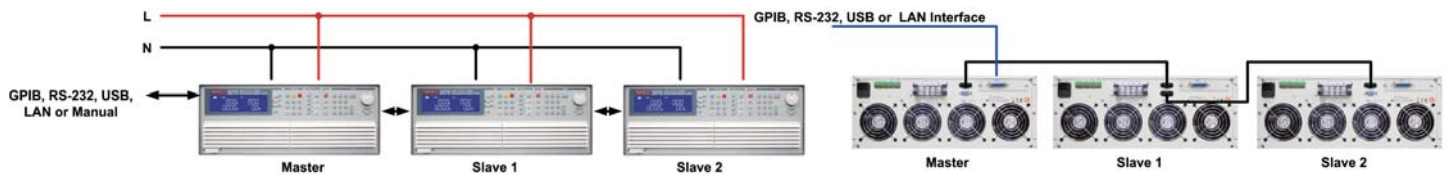
3270 系列负载提供多台并联、三相应用功能，让使用者能够进行更大功率或三相交流电源的测试应用，这样可以更灵活、更弹性的使用3270系列交流电子负载，以节省成本。在并联/三相的操作上，使用者如同操作单机一样，只要对 Master进行操作即可，Slave1 及 Slave2 会自动进行该相的吃载及量测。并联及三相的连接如下图所示。



最大单相功率可达180KW，3相总功率达 540 KW 之 3 相 Y 连接



最大单相功率可达180KW，3相总功率达 540 KW 之3相 Δ 连接



并联连接



1	LCD 多功能显示器 四个电表可同时显示电压值 (Vrms, Vpeak, Vmax., Vmin)、电流值 (Irms, Ipeak, Imax., Imin.)、瓦特值、伏安值 (VA)、频率值、峰值因素、功率因素、电压谐波失真度 (VTHD, VH)、电流谐波失真度 (ITHD, IH) 等。	4	波形库按键 可快速设定 CF $\sqrt{2}$ / 2 / 2.5 / 3 / 3.5, +/- PF0.6 / 0.7 / 0.8 / 0.9 / 1.0, FREQ Auto / 50Hz / 60Hz / 400Hz。
2	电表切换键 V/A/W 键可设定显示 Rms/Peak/Max/Min · Meter键可选择 PF/CF/FREQ · 可切换显示WATT/VA/VAR键 · THD 键选择显示 THD	5	测试功能键 可选择 Short / OPP / OCP / Non-L / NL-CR / Fuse / Batt (Battery Discharge) / Trans (UPTransfer time) 等测试功能。
3	操作功能键 Mode, Preset ON/OFF, Load ON/OFF, Sense ON/OFF, Level A/B, Config, Limit, Recall, Store, SEQ, Local, System 等操作功能键。	6	数字按键区
		7	设定旋钮
		8	电源开关
		9	游标与设定按键



10	交流电源输入连接器	13	主从控制连接器 Master: 上端或下端连接至下一台 Slave: 上端连接至前一台, 下端连接至下一台
11	Vmonitor、Imonitor、Analog input、SYNC input 输入端子	14	通讯界面 (GPIB、RS-232、USB、LAN)
12	Vload, Vsense 输入端子		

选购电压：425Vrms / 600Vdc (3273 / 3274 除外)

规格					
MODEL	3270	3271	3272	3273	3274
Power (W)	3750 W	2800W	1875 W	3750 W	2800W
Current(Ampere)	37.5 Arms / 112.5Apeak	28 Arms / 84Apeak	18.75 Arms / 56.25Apeak	28 Arms / 84Apeak	18.75 Arms / 56.25Apeak
Voltage(Volt)	50~350Vrms / 500Vdc			50~480Vrms / 700Vdc	
FREQUENCY Range	DC,40~440Hz (CC,CP Mode) , DC~440Hz (LIN,CR,CV Mode)			DC,40~70Hz(CC,CP Mode) , DC~70Hz(LIN,CR,CV Mode)	
DC Section					
Current Range	37.5 A	28 A	18.75 A	28 A	18.75 A
Voltage Range	5~500V			5~700V	
Min. operating voltage	5V				
Slew Rate	50μs				
Operating Mode	CC , CR , Linear CC , CP , CV , DC Rectified , DC Rectified+CR				
Test Function	Battery , FUSE/Breaker , OPP/OCP/Short				
PROTECTIONS					
Over Power Protection	≒ 3937.5Wrms or Programmable	≒ 2940Wrms or Programmable	≒ 1968.75Wrms or Programmable	≒ 3937.5 Wrms or Programmable	≒ 2940 Wrms or Programmable
Over Current Protection	≒ 39.375Arms or Programmable	≒ 29.4Arms or Programmable	≒ 19.687Arms or Programmable	≒ 29.4 Arms or Programmab	≒ 19.687 Arms or Programmable
Over Vlotage Protection	≒ 367.5 Vrms / 525Vdc			≒ 504Vrms / 735Vdc	
Over Temp. Protection	Yes				
OPERATION MODE					
Constant Current Mode for Sine-Wave					
Range	0 ~ 37.5A	0 ~ 28A	0 ~ 18.75A	0 ~ 28A	0 ~ 18.75A
Resolution	0.625mA / 16bits	0.5mA / 16bits	0.3125mA / 16bits	0.5mA / 16bits	0.3125mA / 16bits
Accuracy	± (0.1% of setting + 0.2% of range) @ 50/60Hz				
Linear Constant Current Mode for Sine-Wave, Square-Wave or Quasi-Square Wave, PWM Wave					
Range	0~37.5A	0 ~ 28A	0 ~ 18.75A	0~28A	0 ~ 18.75A
Resolution	0.625mA / 16bits	0.5mA / 16bits	0.3125mA / 16bits	0.5mA / 16bits	0.3125mA / 16bits
Accuracy	± (0.1% of setting + 0.2% of range) @ 50/60Hz				
Constant Resistance Mode					
Range	1.6 ohm ~ 32K ohm	2.0 ohm ~ 40K ohm	3.2 ohm ~ 64K ohm	2.5 ohm ~ 50K ohm	4 ohm ~ 80K ohm
Resolution *1	0.010416mS / 16bits	0.0083333mS / 16bits	0.0052083mS / 16bits	0.006666mS / 16bits	0.004166mS / 16bits
Accuracy	±0.2% of (setting + range) @ 50/60Hz				
Constant Voltage Mode					
Range	0 ~ 500V			0 ~ 700V	
Resolution	0.1V			0.0125V	
Accuracy	±(0.1% of setting + 0.1% of range)				
Constant Power Mode					
Range	3750W	2800W	1875W	3750W	2800W
Resolution	0.1W	0.1W	0.1W	0.1W	0.1W
Accuracy *4	±0.5% of (setting + range) @ 50/60Hz				
CREST FACTOR (CC & CP MODE ONLY)					
Range	√2~5				
Resolution	0.1				
Accuracy	(0.5% / Irms) + 1%F.S.				
POWER FACTOR (CC & CP MODE ONLY)					
Range	0~1 Lag or Lead				
Resolution	0.01				
Accuracy	1%F.S.				
TEST MODE					
UPS Efficient Measurement	Non-Linear Mode				
Operating Frequency	Auto ; 40 ~ 440Hz			Auto ; 40 ~ 70Hz	
Current Range	0 ~ 37.5A	0 ~ 28A	0 ~ 18.75A	0 ~ 28A	0 ~ 18.75A
PF Range	0~1				
MEASURING EFFICIENCY FOR PV SYSTEMS, POWER CONDITIONERS for THD 80%	Resistive + Non-Linear Mode				
Operating Frequency	Auto ; 40 ~ 440Hz			Auto ; 40 ~ 70Hz	
Current Range	0 ~ 37.5A	0 ~ 28A	0 ~ 18.75A	0 ~ 28A	0 ~ 18.75A
Resistive Range	1.6 ohm ~ 32K ohm	2.0 ohm ~ 40K ohm	3.2 ohm ~ 64K ohm	2.5 ohm ~ 50K ohm	4 ohm ~ 80K ohm
UPS Back-Up function(CC,LIN,CR,CP)					
VTH	0 ~ 500V			0 ~ 700V	
UPS Back-Up Time	1 ~ 99999 Sec. (>27H)				
Battery Discharge function(CC,LIN,CR,CP)					
VTH	0 ~ 500V			0 ~ 700V	
Battery Discharge Time	1 ~ 99999 Sec. (>27H)				
UPS Transfer Time					
Current Range	0 ~ 37.5A	0 ~ 28A	0 ~ 18.75A	0 ~ 28A	0 ~ 18.75A
VTH	2.5V				
Time range	0.15mS ~ 999.99mS				

规格

MODEL		3270		3271		3272		3273		3274	
Fuse Test mode											
Max. Current	Turbo OFF(CC1~3)	37.5Arms		28.0Arms		18.75Arms		28.0Arms		18.75Arms	
	Turbo ON(CC3)										
	Turbo ON(CC1~2)	75.0Arms (x2) ^{*3}		56.0Arms (x2) ^{*3}		37.5Arms (x2) ^{*3}		56.0Arms (x2) ^{*3}		37.5Arms (x2) ^{*3}	
Trip & Non-Trip Time	Turbo OFF(Time1~3)	0.01~333.33sec.				0.01~0.50sec.					
	Turbo ON(Time1~2)										
	Turbo ON(Time3)										
OFF Time		0.1~999.9 Sec.									
Meas. Accuracy		±0.003 Sec.									
Repeat Cycle		0~99999									
Short/OPP/OCF Test Function											
Short Time	Turbo OFF	0.1S ~ 10Sec. Or Cont.									
	Turbo ON										
OPP/OCF Step Time	Turbo OFF	100ms									
	Turbo ON										
OCP Istop	Turbo OFF	37.5Arms		28.0Arms		18.75Arms		28.0Arms		18.75Arms	
	Turbo ON	75.0Arms ^{*3}		56.0Arms ^{*3}		37.5Arms ^{*3}		56.0Arms ^{*3}		37.5Arms ^{*3}	
OPP Pstop	Turbo OFF	3750W		2800W		1875W		3750W		2800W	
	Turbo ON	7500W		5600W		3750W		7500W		5600W	
Programmable Inrush current simulation: Istart - Istop / Tsep											
Istart, Inrush Start Current		0~75A		0~56A		0~37.5A		0~56A		0~37.5A	
Inrush Step time		0.1mS~100mS									
Istop, Inrush stop current		0~37.5A		0~28A		0~18.75A		0~28A		0~18.75A	
Programmable Surge current simulation: S1/T1 - S2/T2 - S3/T3											
S1 and S2 Current		0~75A		0~56A		0~37.5A		0~56A		0~37.5A	
T1 and T2 Time		0.01S~0.5Sec.									
S3 Current		0~37.5A		0~28A		0~18.75A		0~28A		0~18.75A	
T3 Time		0.01S ~ 9.99Sec. Or Cont.									
MEASUREMENTS											
VOLTAGE READBACK V METER											
Range		500V						700V			
Resolution		0.01V						0.0125V			
Accuracy		± 0.05% of (reading + range)									
Parameter		Vrms, V Max / Min, +/-Vpk									
CURRENT READBACK A METER											
Range		18.75Arms / 37.5Arms		14Arms / 28Arms		9.375Arms / 18.75Arms		14Arms / 28Arms		9.375Arms / 18.75Arms	
Resolution		0.4mA / 0.8mA		0.3mA / 0.6mA		0.2mA / 0.4mA		0.3mA / 0.6mA		0.2mA / 0.4mA	
Accuracy		±0.05% of (reading + range) @ 50/60Hz , ±0.2% of (reading + range)									
Parameter		Irms,I Max / Min,+ / -Ipk									
WATT READBACK W METER											
Range		3750W		2800W		1875W		3750W		2800W	
Resolution		0.0625W		0.05W		0.03125W		0.0625W		0.05W	
Accuracy		±0.5% of (reading + range)									
VA METER		Vrms×Arms Correspond To Vrms and Arms									
Power Factor METER											
Range		+/- 0.000~1.000									
Accuracy		± (0.002 ± (0.001 / PF) * F)									
Frequency METER (Hz)											
Range		DC,40~440Hz						DC,40~70Hz			
Accuracy		0.1%									
Other Parameter METER											
VA, VAR, CF_I, Ipeak, Imax., Imin. Vmax., Vmin., IHD, VHD, ITHD, VTHD											
OTHERS											
Start up loading		Yes , Power on loading during Inverter / UPS start up									
Load ON / OFF Angle		0 ~ 359 degree can be programmed for the angle of load ON and load OFF loading									
Half cycle and SCR/TRIAC loading		Postive or Negative half cycle, 90° Trailing edge or Leading edge current waveform can be programmed									
Master/Slave (3 Phase Application)		Yes, 1 master and upto 7 slave units									
External programming input		F.S / 10Vdc, Resulotion 0.1V									
External SYNC input		TTL									
Vmonitor (Isolated)		±500V / ±10V						±700V / ±10V			
Imonitor (Isolated)		±112.5Apk / ±10Vpk		±84Apk / ±10Vpk		±56.25Apk / ±10Vpk		±84Apk / ±10Vpk		±56.25Apk / ±10Vpk	
Interface (OPTION)		GPIB ; RS-232 ; LAN ; USB									
MAX. Power consumption		150VA									
Operation Temperature ^{*2}		0 ~ 40 °C									
Current of input impedance (mA) @50/60Hz ; @400Hz		~ V*0.6 ; ~ V*4.4		~ V*0.45 ; ~ V*3.3		~ V*0.3 ; ~ V*2.2		~ V*0.4 ; ~ V*2.95		~ V*0.3 ; ~ V*2.2	
Dimension (H x W x D)		177 x 440 x 558 mm									
Weight		33.5Kg		27.5Kg		21.5Kg		33.5Kg		27.5Kg	

输入电源：100~230 Vac +/- 10% · 50/60Hz
 冷却方式：智慧型风扇冷却

注*1：ms (millisiemens) is the unit of conductance(G), one siemens equal to 1/Ω
 注*2：操作温度范围为0~40℃ · 规格适用于25℃±5℃ · 除非另有说明
 注*3：2倍额定电流和功率的Turbo mode操作模式 · 主要应用于保险丝(Fuse)、Short / OCP / OPP的测试
 注*4：该规格适用于电流小于20Arms

选购电压：425Vrms / 600Vdc (3273 / 3274 除外)

规 格						
MODEL	32711	32701	32702	32703	32704	32705
Power (W)	5600 W	7500 W	11250W	15000W	18750W	22500W
Current(Ampere)	56 Arms / 168Apeak	75 Arms / 225Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak
Voltage(Volt)	50~350Vrms / 500Vdc					
FREQUENCY Range	DC,40~440Hz (CC,CP Mode) , DC~440Hz (LIN,CR,CV Mode)					
DC Section						
Current Range	56 A	75 A	112.5 A	112.5 A	112.5 A	112.5 A
Voltage Range	5~500V					
Min. operating voltage	5V					
Slew Rate	50μs					
Operating Mode	CC , CR , Linear CC , CP , CV , DC Rectified , DC Rectified+CR					
Test Function	Battery , FUSE/Breaker , OPP/OCP/Short					
PROTECTIONS						
Over Power Protection	≡ 5880Wrms or Programmable	≡ 7875Wrms or Programmable	≡ 11812.5Wrms or Programmable	≡ 15750Wrms or Programmable	≡ 19687.5Wrms or Programmable	≡ 23625Wrms or Programmable
Over Current Protection	≡ 58.8Arms, or Programmable	≡ 78.75 Arms, or Programmable	≡ 118.125 Arms or Programmable	≡ 118.125 Arms or Programmable	≡ 118.125 Arms or Programmable	≡ 118.125 Arms or Programmable
Over Vlotage Protection	≡ 367.5 Vrms / 525Vdc					
Over Temp. Protection	Yes					
OPERATION MODE						
Constant Current Mode for Sine-Wave						
Range	0~56A	0~75A	0~112.5A	0~112.5A	0~112.5A	0~112.5A
Resolution	1mA/16bits	1.25mA/16bits	1.875mA/16bits	1.875mA/16bits	1.875mA/16bits	1.875mA/16bits
Accuracy	± (0.1% of setting + 0.2% of range) @ 50/60Hz					
Linear Constant Current Mode for Sine-Wave, Square-Wave or Quasi-Square Wave, PWM Wave						
Range	0~56A	0~75A	0~112.5A	0~112.5A	0~112.5A	0~112.5A
Resolution	1mA/16bits	1.25mA/16bits	1.875mA/16bits	1.875mA/16bits	1.875mA/16bits	1.875mA/16bits
Accuracy	± (0.1% of setting + 0.2% of range) @ 50/60Hz					
Constant Resistance Mode						
Range	1 ohm~20K ohm	0.8 ohm~16K ohm	0.533 ohm~10.666K ohm	0.533 ohm~10.666K ohm	0.533 ohm~10.666K ohm	0.533 ohm~10.666K ohm
Resolution *1	0.016666mS/16bits	0.020832mS/16bits	0.031248mS/16bits	0.031248mS/16bits	0.031248mS/16bits	0.031248mS/16bits
Accuracy	±0.2% of (setting + range) @ 50/60Hz					
Constant Voltage Mode						
Range	0 ~ 500V					
Resolution	0.1V					
Accuracy	±0.2% of (setting + range) @ 50/60Hz					
Constant Power Mode						
Range	5600W	7500W	11250W	15000W	18750W	22500W
Resolution	0.1W	0.1W	1W	1W	1W	1W
Accuracy	±0.5% of (setting + range) @ 50/60Hz					
CREST FACTOR (CC & CP MODE ONLY)						
Range	√2~5					
Resolution	0.1					
Accuracy	(0.5% / Irms) + 1%F.S.					
POWER FACTOR (CC & CP MODE ONLY)						
Range	0~1 Lag or Lead					
Resolution	0.01					
Accuracy	1%F.S.					
TEST MODE						
UPS Efficient Measurement	Non-Linear Mode					
Operating Frequency	Auto ; 40 ~ 440Hz					
Current Range	0~56A	0~75A	0~112.5A	0~112.5A	0~112.5A	0~112.5A
PF Range	0~1					
MEASURING EFFICIENCY FOR PV SYSTEMS, POWER CONDITIONERS for THD 80%	Resistive + Non-Linear Mode					
Operating Frequency	Auto ; 40 ~ 440Hz					
Current Range	0~56A	0~75A	0~112.5A	0~112.5A	0~112.5A	0~112.5A
Resistive Range	1 ohm~20K ohm	0.8 ohm~16K ohm	0.533 ohm~10.666 Kohm	0.533 ohm~10.666 Kohm	0.533 ohm~10.666 Kohm	0.533 ohm~10.666 Kohm
UPS Back-Up function(CC,LIN,CR,CP)						
V _{TH}	0 ~ 500V					
UPS Back-Up Time	1 ~ 99999 Sec. (>27H)					
Battery Discharge function(CC,LIN,CR,CP)						
V _{TH}	0 ~ 500V					
Battery Discharge Time	1 ~ 99999 Sec. (>27H)					
UPS Transfer Time						
Current Range	0~56A	0~75A	0~112.5A	0~112.5A	0~112.5A	0~112.5A
V _{TH}	2.5V					
Time range	0.15mS ~ 999.99mS					

规 格							
MODEL		32711	32701	32702	32703	32704	32705
Fuse Test mode							
Max. Current	Turbo OFF(CC1~3)	56Arms	75Arms	112.5Arms	112.5Arms	112.5Arms	112.5Arms
	Turbo ON(CC3)						
	Turbo ON(CC1~2)	112Arms (x2) *3	150Arms (x2) *3	225Arms (x2) *3	225Arms (x2) *3	225Arms (x2) *3	225Arms (x2) *3
Trip & Non-Trip Time	Turbo OFF(Time1~3)	0.01~333.33sec.					
	Turbo ON(Time1~2)	0.01~0.50sec.					
	Turbo ON(Time3)	0.01~600.00sec.					
OFF Time		0.1~999.9 Sec.					
Meas. Accuracy		±0.003 Sec.					
Repeat Cycle		0~99999					
Short/OPP/OCF Test Function							
Short Time	Turbo OFF	0.1S ~ 10Sec. Or Cont.					
	Turbo ON	0.1S ~ 1Sec					
OPP/OCF Step Time	Turbo OFF	100ms					
	Turbo ON	100ms, up to 10 Steps					
OCP Istop	Turbo OFF	56Arms	75Arms	112.5Arms	112.5Arms	112.5Arms	112.5Arms
	Turbo ON	112Arms	150Arms	225Arms	225Arms	225Arms	225Arms
OPP Pstop	Turbo OFF	5600W	7500W	11250W	15000W	18750W	22500W
	Turbo ON	11200W	15000W	22500W	30000W	37500W	45000W
Programmable Inrush current simulation: Istart - Istop / Tsep							
Istart, Inrush Start Current		0~112A	0~150A	0~225A	0~225A	0~225A	0~225A
Inrush Step time		0.1mS~100mS					
Istop, Inrush stop current		0~56A	0~75A	0~112.5A	0~112.5A	0~112.5A	0~112.5A
Programmable Surge current simulation: S1/T1 - S2/T2 - S3/T3							
S1 and S2 Current		0~112A	0~150A	0~225A	0~225A	0~225A	0~225A
T1 and T2 Time		0.01S~0.5Sec.					
S3 Current		0~56A	0~75A	0~112.5A	0~112.5A	0~112.5A	0~112.5A
T3 Time		0.01S ~ 9.99Sec. Or Cont.					
MEASUREMENTS							
VOLTAGE READBACK V METER							
Range		500V					
Resolution		0.01V					
Accuracy		±0.05% of (reading + range)					
Parameter		Vrms,V Max/Min,+/-Vpk					
CURRENT READBACK A METER							
Range		28Arms / 56Arms	37.5Arms / 75Arms	56.25Arms / 112.5Arms	56.25Arms / 112.5Arms	56.25Arms / 112.5Arms	56.25Arms / 112.5Arms
Resolution		0.6mA / 1.2mA	0.8mA / 1.6mA	1.2mA / 2.4mA	1.2mA / 2.4mA	1.2mA / 2.4mA	1.2mA / 2.4mA
Accuracy		±0.1% of (reading + range) @ 50/60Hz					
Parameter		Irms,I Max/Min,+/-Ipk					
WATT READBACK W METER							
Range		5600W	7500W	11250W	15000W	18750W	22500W
Resolution		0.1W	0.125W	0.1875W	0.25W	0.3125W	0.375W
Accuracy		±0.5% of (reading + range) @ 50/60Hz					
VA METER		Vrms×Arms Correspond To Vrms and Arms					
Power Factor METER							
Range		+/- 0.000~1.000					
Accuracy		± (0.002 ± (0.001 / PF) * F)					
Frequency METER (Hz)							
Range		DC,40~440Hz					
Accuracy		0.1%					
Other Parameter METER							
		VA, VAR, CF_I, Ipeak, Imax., Imin., Vmax., Vmin., IHD, VHD, ITHD, VTHD					
OTHERS							
Start up loading		Yes , Power on loading during Inverter / UPS start up					
Load ON / OFF Angle		0 ~ 359 degree can be programmed for the angle of load ON and load OFF loading					
Half cycle and SCR/TRIAC loading		Postive or Negative half cycle, 90° Trailing edge or Leading edge current waveform can be programmed					
Master/Slave (3 phase or Parallel application)		Yes, 1 master and upto 7 slave unit					
External programming input		F.S / 10Vdc, Resulotion 0.1V					
External SYNC input		TTL					
Vmonitor (Isolated)		±500V / ±10V					
Imonitor (Isolated)		±168Apk / ±10Vpk	±225Apk / ±10Vpk	±337.5Apk / ±10Vpk	±337.5Apk / ±10Vpk	±337.5Apk / ±10Vpk	±337.5Apk / ±10Vpk
Interface (OPTION)		GPIB : RS-232 : LAN : USB					
MAX. Power consumption		270VA	270VA	390VA	510VA	630VA	750VA
Operation Temperature ²		0 ~ 40 °C					
Current of input impedance (mA) @ 50/60Hz ; @400Hz		~ V*0.9 ; ~ V*6.6	~ V*1.2 ; ~ V*8.8	~ V*1.8 ; ~ V*13.2	~ V*2.4 ; ~ V*17.6	~ V*3.0 ; ~ V*22	~ V*3.6 ; ~ V*26.4
Dimension(H x W x D)		458 x 480 x 593 mm	458 x 480 x 593 mm	636 x 480 x 593 mm	814 x 480 x 593 mm	1285 x 600 x 600 mm	1285 x 600 x 600 mm
HxWxD(Not included wheels)		355 x 480 x 593 mm	355 x 480 x 593 mm	533 x 480 x 593 mm	711 x 480 x 593 mm	1182 x 600 x 600 mm	1182 x 600 x 600 mm
Weight		58 kg	70 kg	105kg	140kg	260kg	295kg

输入电源：100~230 Vac +/- 10% · 50/60Hz
冷却方式：智慧型风扇冷却

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注*4：该规格适用于电流小于20Arms