



IC-0025

# 3270 Series

Your Power House

**VP ELECTRONIQUE**

AC & DC ELECTRONIC LOAD



AC & DC ELECTRONIC LOAD

**PRODIGIT**  
INSTRUMENT PROFESSIONAL

# 3270 Series AC & DC Electronic Load



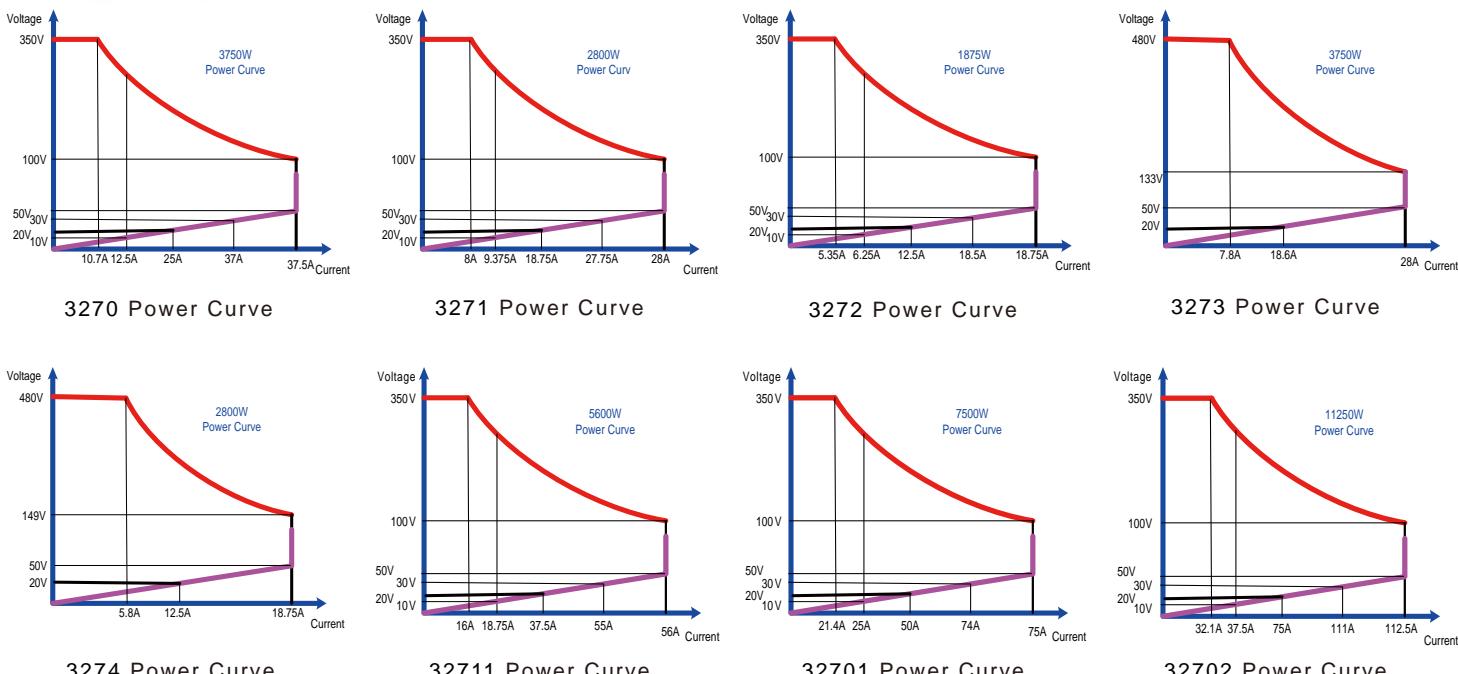
MODEL	3270	3271	3272	3273	3274
Power (W)	Turbo OFF	3750 W	2800W	1875 W	3750 W
	Turbo ON	7500W (x2)*	5600W (x2)*	3750W (x2)*	7500W (x2)*
Current(Ampere)	Turbo OFF	37.5 Arms / 112.5Apeak	28 Arms / 84Apeak	18.75 Arms / 56.25Apeak	28 Arms / 84Apeak
	Turbo ON	75.0Arms/112.5Apeak (x2)*	56Arms/84Apeak (x2)*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

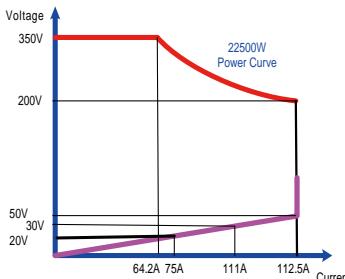
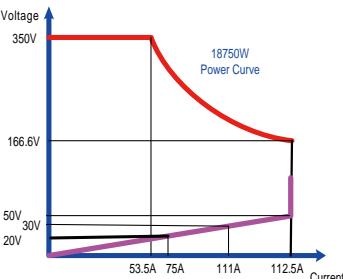
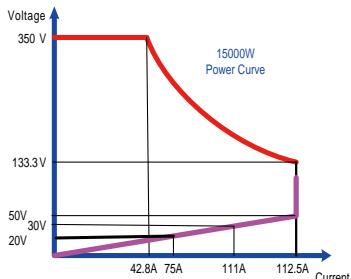
MODEL	32701	32702	32703	32704	32705
Power (W)	Turbo OFF	7500 W	11250W	15000W	18750W
	Turbo ON	15000W (x2)*	22500W (x2)*	30000W (x2)*	37500W (x2)*
Current(Ampere)	Turbo OFF	75.0 Arms / 225Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak
	Turbo ON	150.0Arms/225Apeak (x2)*	225Arms/337.5Apeak (x2)*	225Arms/337.5Apeak (x2)*	225Arms/337.5Apeak (x2)*
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 can double the power and Current ratings

## Power Curve





## Features

- 4 digit V / A/W Meter , display the Voltage ( Vrms, Vpeak, Vmax., Vmin ) 、 Current ( Irms, Ipeak, Imax., Imin. ) 、 Watt, Voltampere ( VA ) 、 Frequency 、 Crest Factor 、 Power Factor 、 Total Harmonic Distortion of Voltage ( VTHD ) , Voltage Harmonic ( VH ) 、 Total Harmonic Distortion of Current ( ITHD ) , Current Harmonic ( IH )
- CC, Linear CC, CR, CV, CP and AC Rectifier Load mode
- **Voltage Optional : 425Vrms / 600Vdc ( except 3273 / 3274 )**
- Crest factor range : 1.414~5.0
- Power factor ( PF) range : 0~1 lead or ( -1~0 ) lag
- Built-in function test modes include UPS Efficiency, PV Inverter Efficiency, UPS Back-up time, Battery Discharge time, UPS transfer time, Fuse/Breaker Trip/Non-Trip, Short circuit , OCP, OPP test modes
- Turbo mode is able to increase to 2 times the current and power of electronic load in a short period which is the most suitable for Fuse / Breaker test and short circuit, OCP, OPP test of AC power supply
- Time measurement can be applied to batteries, UPS, fuses and circuit breakers and other tests
- Three units parallel up to 90KW and three-phase  $\Delta$  or Y load connection can be synchronized control by one master unit
- Support on-load boot; at first set Load ON to support on-load boot, inverter or uninterruptible power supply is turned on directly with the set load current, used to verify whether the starter is stable when the Inverter is connected.
- Supports the loading and unloading angle control; the loading and unloading angle control, the full range of 0-359 degrees can be set to verify whether the Inverter output voltage transient response is stable when the actual electrical plugging and unplugging, and whether Overshoot/Uundershoot is within the allowable range.
- Support positive half-cycle or negative half-cycle loading; used to verify whether the Inverter output voltage remains stable when the actual appliance has only positive half-cycle or negative half-cycle load current.
- Supports SCR/TRIAC current phase modulation waveforms, 90 degree Trailing edge and Leading Edge.
- Supports the Inrush Current of the inverter at startup and the Surge Current test when the load is suddenly plugged in (Hot Plug-in) during testing.
- Frequency Range : DC, 40~440Hz
- Voltage and current monitoring
- Can be controlled by external voltage for CC, Linear CC, CR, CV, CP operating modes
- Protection against V, I, W, and  $^{\circ}\text{C}$
- Optional interface : GPIB 、 RS232 、 USB 、 LAN
- **The most complete measurement capabilities**

3270 Series AC & DC electronic load built-in 16-bit A/D and DSP precision measurement circuit, provides accurate measurements, measurement items have Vrms, Arms, Watt, VA, CF, PF, THD, VTHD, ITHD, Ipeak, Amax, Amin, Vmax, and Vmin

In addition to these measurement functions, it also provides time measurement , products such as UPS, fuses and circuit breakers etc. trip or blow time and transfer time for Off-line UPS

## Order Information



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

Optional Interface : ① GPIB Card ② RS232 Card ③ USB Card ④ LAN Card



32711  
350V,56A,5600W



32701  
350V,75A,7500W



32702  
350V,112.5A,11250W



32703  
350V,112.5A,15000W

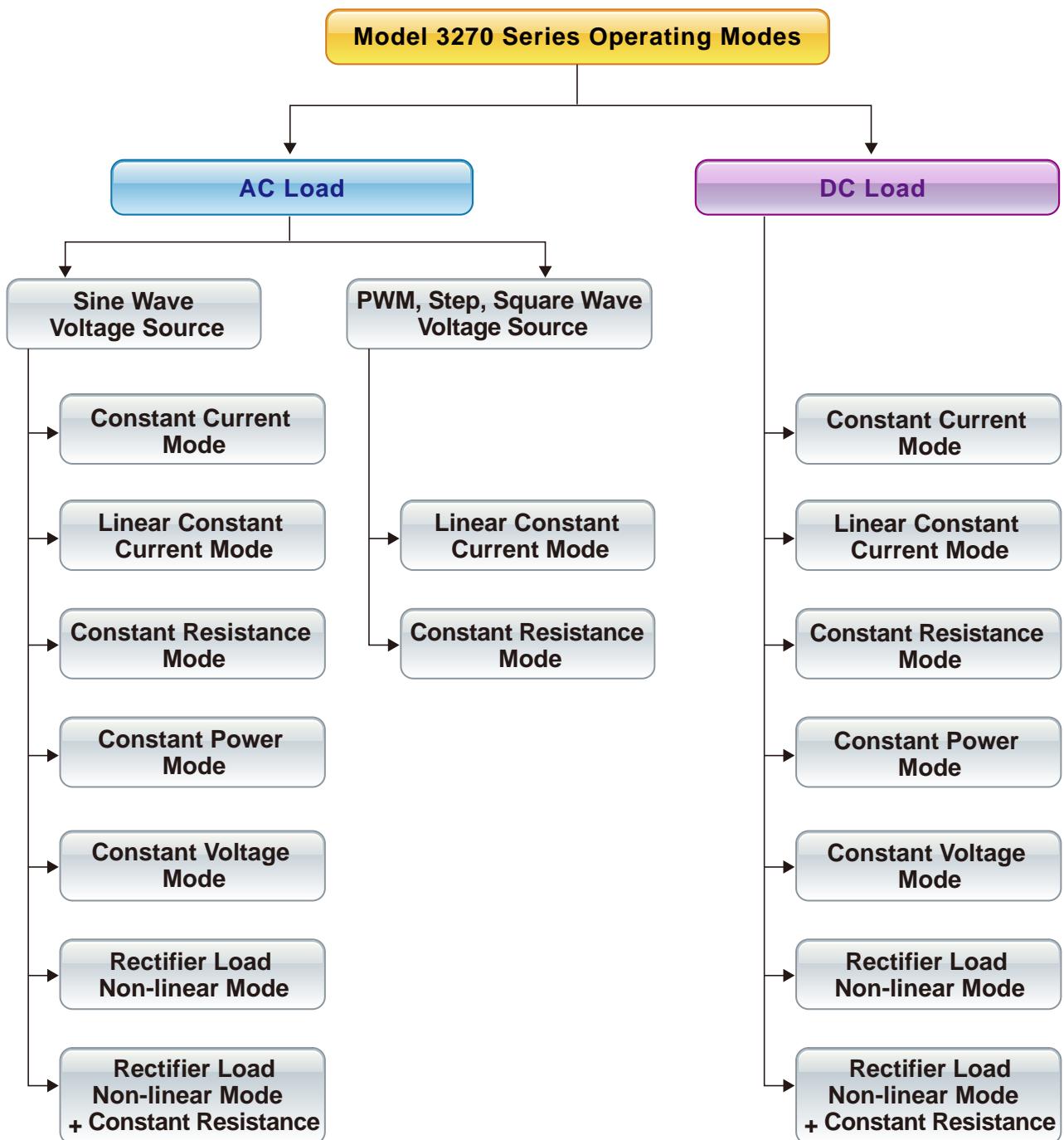


32704  
350V,112.5A,18750W

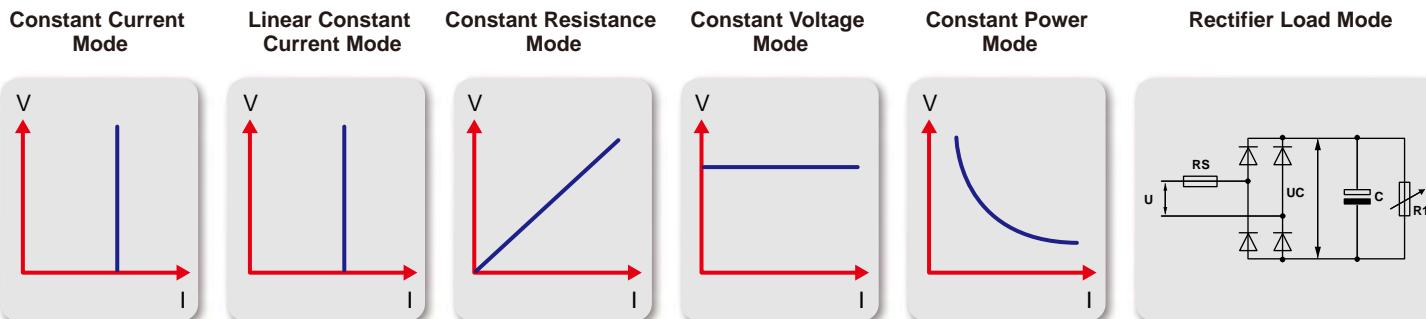


32705  
350V,112.5A,22500W

## Complete AC and DC load modes

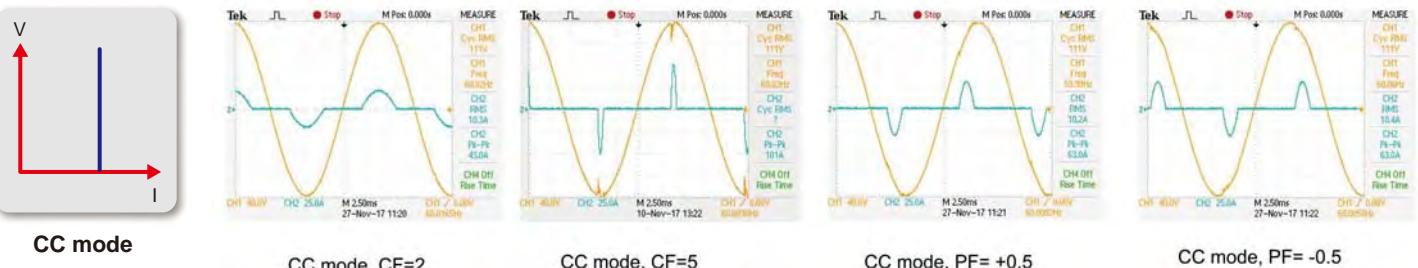


## • AC Load Mode

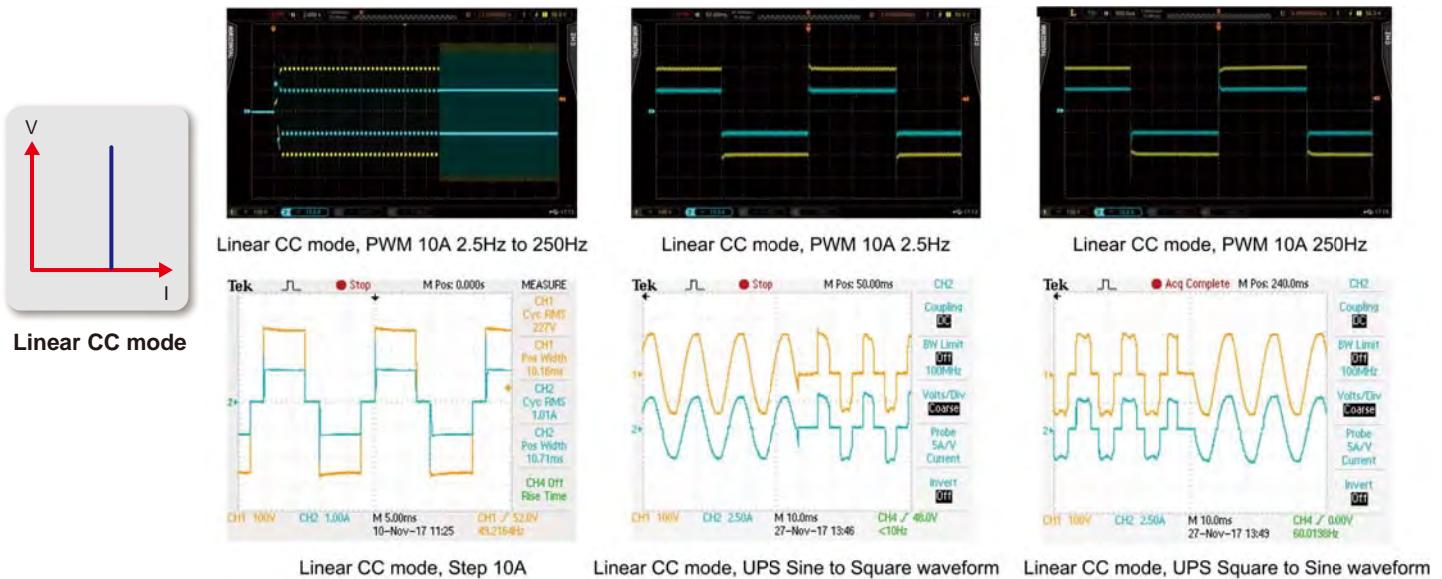


- CC Mode : In the constant current mode of AC Load, can be applied to sine wave voltage source, as shown in the figure below.

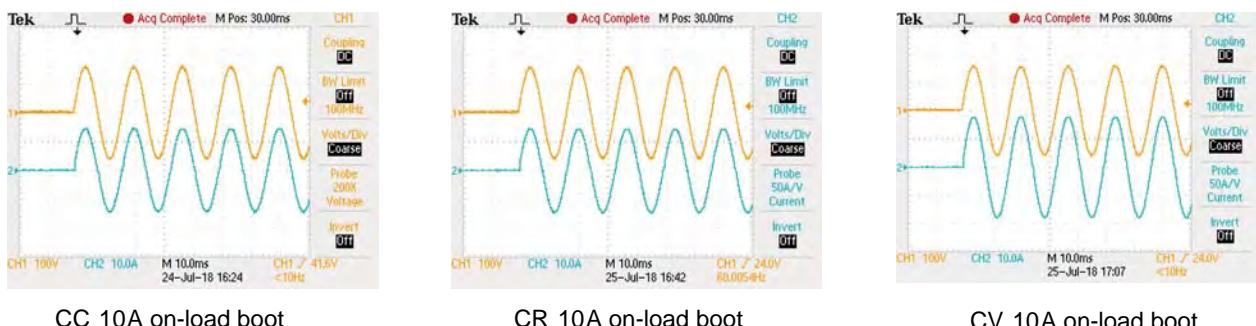
**IC-0025**



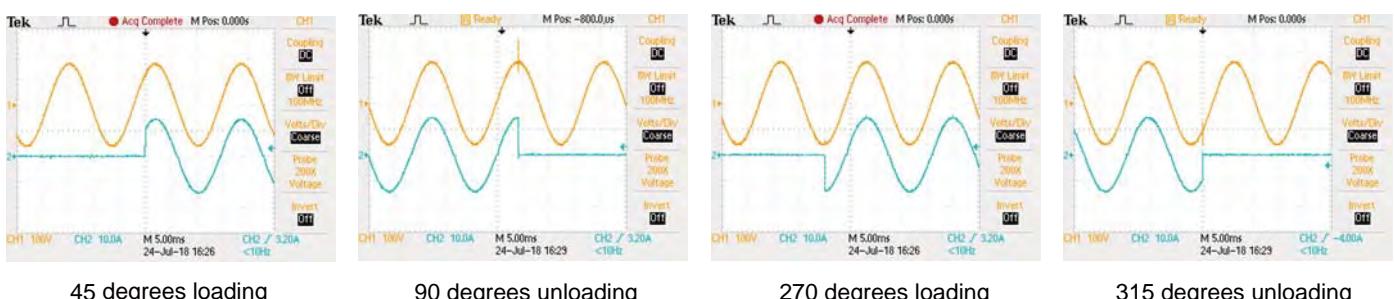
- Linear Constant Current Mode : Can be applied to sine wave and non-sine wave voltage source, as shown in the PWM inverter driver, step voltage source, and off-line UPS sine wave switch to square wave, square wave switch to sine wave.



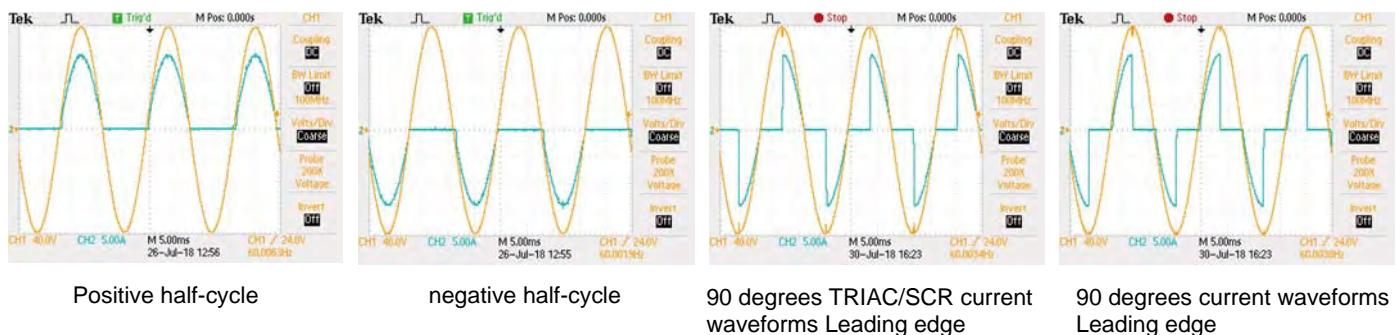
- Supported on-load start-up : at first set Load ON to support on-load start-up, inverter or uninterruptible power supply is start-up directly with the set load current, used to verify whether the Inverter is stable when the load is connected during start-up.



- Supports the loading and unloading current angle control ; the loading and unloading current angle range of 0-359 degrees can be programmed to verify whether the Inverter output voltage transient response is stable during the actual electrical appliance is connected or turn ON / OFF randomly it can be used to verify the Overshoot / Undershoot response is within the desire range.



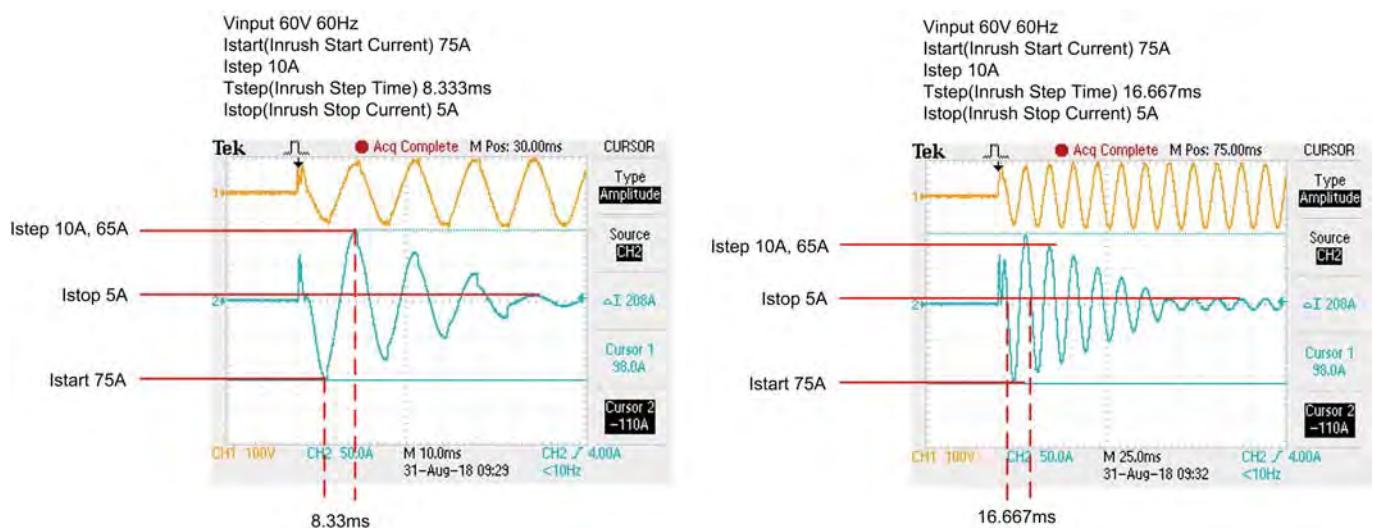
- Support positive half-cycle or negative half-cycle loading ; it can be used to verify whether the **IC-0025** output voltage remains stable when the actual appliance has only positive half-cycle or negative half-cycle load current.



- Support the Inrush Current of the inverter at startup and Power Plug-in test when the power supply is turned on to verify the Inrush Current and the sudden connection of the appliance when the power is turned on (Surge Current), to verify if whether the Inverter output voltage transient response is stable, as shown in the figure below.

MODEL	3270	3271	3272	3273	3274
<b>Programmable Inrush current simulation: Istart - Istop / Tsep</b>					
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
<b>Programmable Surge current simulation: S1/T1 - S2/T2 - S3/T3</b>					
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.		

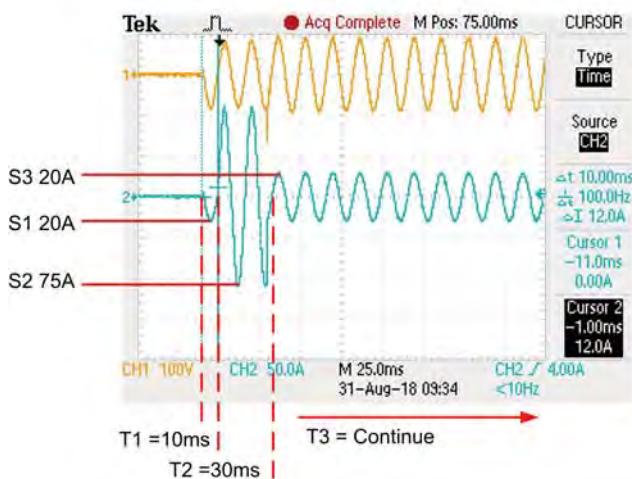
MODEL	32701	32702	32703	32704	32705	32711
<b>Programmable Inrush current simulation: Istart - Istop / Tsep</b>						
Istart, Inrush Start Current	0~150A	0~225A	0~225A	0~225A	0~225A	0~112.0A
Inrush Step time			0.1mS~100mS			
Istop, Inrush stop current	0~75A	0~112.5A	0~112.5A	0~112.5A	0~112.5A	0~56A
<b>Programmable Surge current simulation: S1/T1 - S2/T2 - S3/T3</b>						
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.			



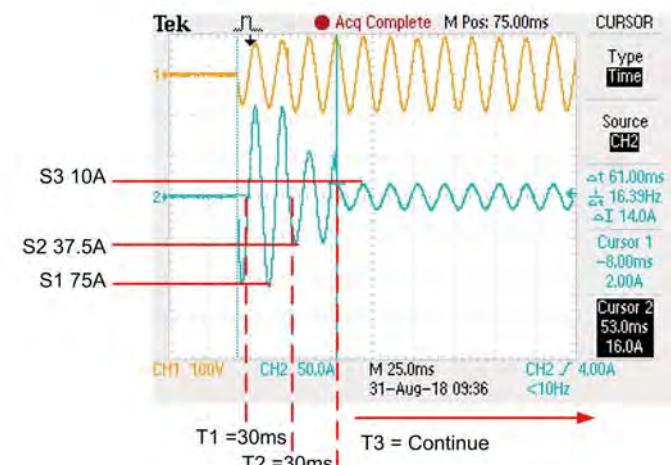
Inrush Current test at boot

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

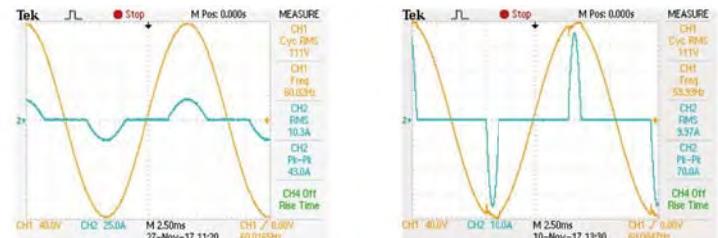
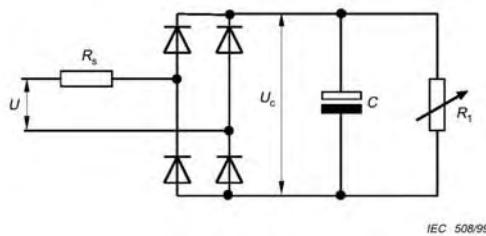


### Inrush Current test at boot

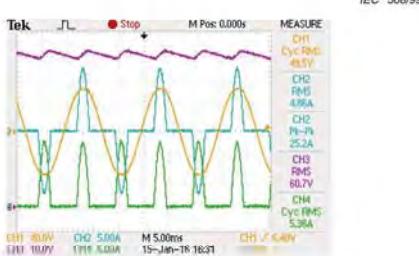
## AC rectified load simulation meet the IEC62040-3 and IEC61683 test specifications

( IEC62040-3 UPS Efficiency Measurement non-Linear and IEC61683 Resistive Plus Non-Linear) 3270 AC & DC electronic load AC rectified load mode is fully compliance with the IEC test specification requirements for the UPS, IEC 62040-3 UPS Efficiency Measurement Non-Linear and IEC 61683 Resistive Plus Non-Linear, respectively, 3270 AC rectifier load mode uses CC + CR load mode and maintain current THD at 80%, to simulate the actual PV Inverter connected to the electronic device.

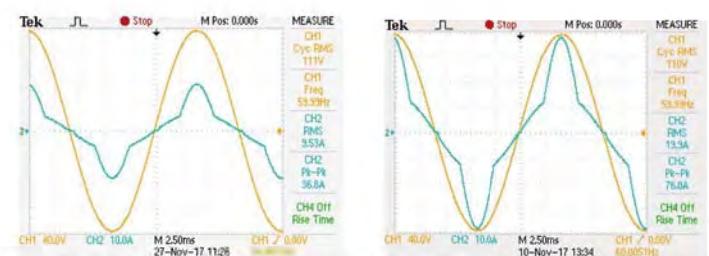
Rectifier Load Mode



Non-Linear CC mode for UPS test

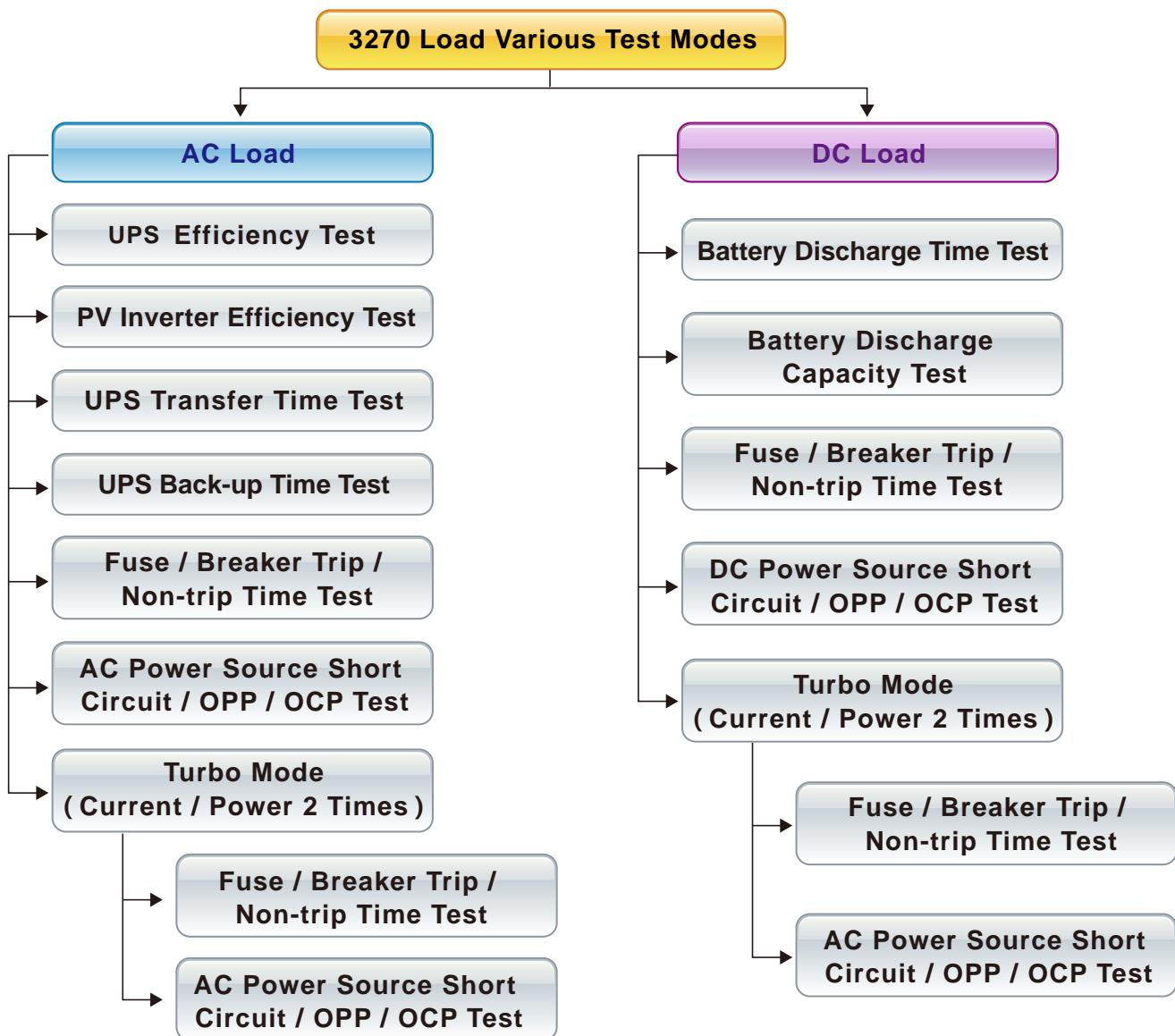


The actual V / A waveform



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

The 3270 Series AC & DC electronic load features built-in test modes for a variety of products. Including AC Load of UPS, Inverter, Fuse/Breaker, AC Power Source , and DC Load of Battery, Fuse/Breaker, DC Power Source etc.. , as shown below.



### Current protection component test

Current protection component includes Fuse, Circuit breakers and a new PTC Resettable fuse etc., its function is when the circuit current exceeds the design of the rated value, that is, if the load exceeds the design of the current capacity, the circuit will be disconnected, in order to avoid overheating, even fire. Fuse is a one-time use of the protection components, Breaker and PTC can be reused.

The current protection components of the protection current value and the protection reaction time has usually a product of the relationship that is, the greater the current through the current protection component, the shorter the reaction time to protect the circuit. This is similar to energy protection components.

Due to this feature, the 3270 series AC & DC electronic load, in particular for the verification of current protection components, has developed a Fuse Test function to test and verify such protection element with an electronic load of rated current and power. When Turbo mode is set to ON, the test current can be up to double the maximum current within 1 second of test period. Take 3270 as an example, the maximum test current can be doubled to 75A. That is, when the Turbo mode of the 3270 series is ON, the test current value can reach to 2 units 3270 series ( normal mode ) within 1 second test period.

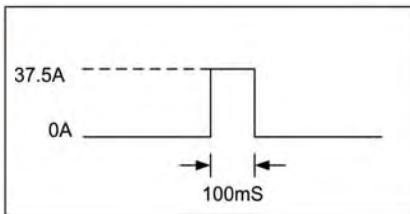


MODEL	3270	3271	3272	3273	IC-0025 3274
Power (W)	3750 W	2800W	1875 W	3750 W	2800W
Current(Ampere)	37.5 Arms / 112.5Apeak	28 Arms / 84Apeak	18.75 Arms / 56.25Apeak	28 Arms / 84Apeak	18.75 Arms / 56.25Apeak
Voltage(Volt)		50~350Vrms / 500Vdc		50~480Vrms / 700Vdc	
FREQUENCY Range	DC,40~440Hz (CC,CP Mode) , DC~440Hz (LIN,CR,CV Mode)			DC,40~70Hz (CC,CP Mode) , DC~70Hz (LIN,CR,CV Mode)	
<b>Fuse Test mode</b>					
Max. Current	Turbo OFF	37.5Arms	28.0Arms	18.75Arms	28.0Arms
	Turbo ON	75.0Arms (x2) <sup>*3</sup>	56.0Arms (x2) <sup>*3</sup>	37.5Arms (x2) <sup>*3</sup>	56.0Arms (x2) <sup>*3</sup>
Trip & Non-Trip Time	Turbo OFF			0.1 ~ 9999.9sec.	
	Turbo ON			0.1 ~ 1.0sec.	
Meas. Accuracy				±0.003 Sec.	
Repeat Cycle				0 ~ 255	
<b>Short/OPP/OCP Test Function</b>					
Short Time	Turbo OFF			0.1S ~ 10Sec. Or Cont.	
	Turbo ON			0.1S ~ 1Sec	
OPP/OCP Step Time	Turbo OFF			100ms	
	Turbo ON			100ms, up to 10 Steps	
OCP Istop	Turbo OFF	37.5Arms	28.0Arms	18.75Arms	28.0Arms
	Turbo ON	75.0Arms <sup>*3</sup>	56.0Arms <sup>*3</sup>	37.5Arms <sup>*3</sup>	56.0Arms <sup>*3</sup>
OPP Pstop	Turbo OFF	3750W	2800W	1875W	3750W
	Turbo ON	7500W	5600W	3750W	7500W
					5600W

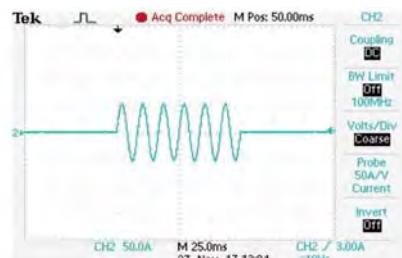
MODEL	32711	32701	32702	32703	32704	32705
Power (W)	5600 W	7500 W	11250W	15000W	18750W	22500W
Current(Ampere)	56 Arms / 168Apeak	75 Arms / 225Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak	112.5 Arms / 337.5Apeak
Voltage(Volt)			50~350Vrms / 500Vdc			
FREQUENCY Rangen			DC,40~440Hz (CC,CP Mode) , DC~440Hz (LIN,CR,CV Mode)			
<b>Fuse Test mode</b>						
Max. Current	Turbo OFF	56Arms	75Arms	112.5Arms	112.5Arms	112.5Arms
	Turbo ON	112Arms (x2) <sup>*3</sup>	150Arms (x2) <sup>*3</sup>	225Arms (x2) <sup>*3</sup>	225Arms (x2) <sup>*3</sup>	225Arms (x2) <sup>*3</sup>
Trip & Non-Trip Time	Turbo OFF			0.1 ~ 9999.9sec.		
	Turbo ON			0.1 ~ 1.0sec.		
Meas. Accuracy				±0.003 Sec.		
Repeat Cycle				0 ~ 255		
<b>Short/OPP/OCP Test Function</b>						
Short Time	Turbo OFF			0.1S ~ 10Sec. Or Cont.		
	Turbo ON			0.1S ~ 1Sec		
OPP/OCP Step Time	Turbo OFF			100ms		
	Turbo ON			100ms, up to 10 Steps		
OCP Istop	Turbo OFF	56Arms	75Arms	112.5Arms	112.5Arms	112.5Arms
	Turbo ON	112Arms	150Arms	225Arms	225Arms	225Arms
OPP Pstop	Turbo OFF	5600W	7500W	11250W	15000W	18750W
	Turbo ON	11200W	15000W	22500W	30000W	37500W
					45000W	



Turbo OFF, Short 100ms 37.5A  
Test result screen



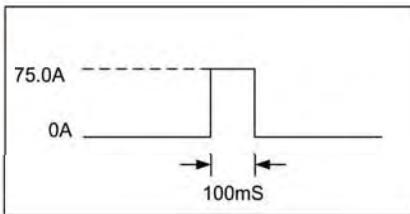
Turbo OFF, Short 100ms 37.5A Setting



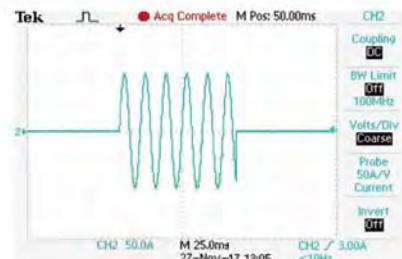
Turbo OFF, Short 100ms 37.5A  
The actual test waveform



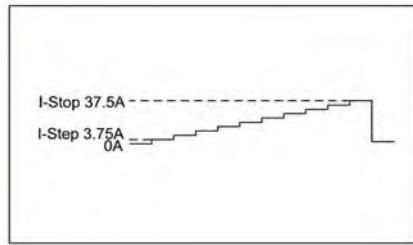
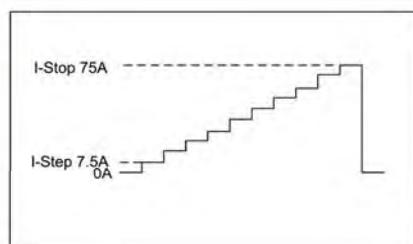
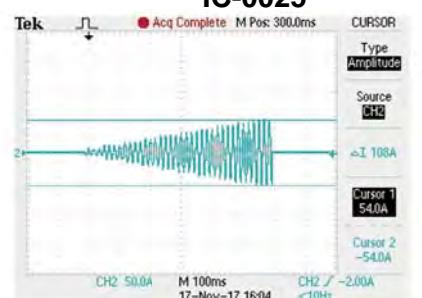
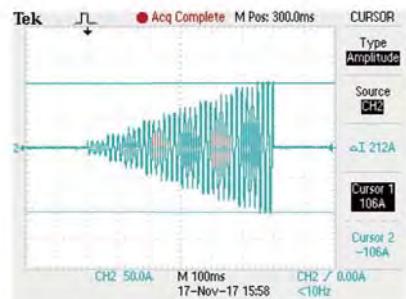
Turbo ON, Short 100ms 75.0A  
Test result screen



Turbo ON, Short 100ms 75.0A Setting



Turbo ON, Short 100ms 75.0A  
The actual test waveform

**IC-0025**Turbo OFF, OCP Istep 3.75 A Istop 37.5A  
Test result screenTurbo OFF, OCP Istep 3.75 A Istop 37.5A  
SettingTurbo ON, OCP Istep 7.5 A Istop 75A  
Test result screenTurbo ON, OCP Istep 7.5 A Istop 75.0A  
SettingTurbo OFF, OCP Istep 3.75 A Istop 37.5A  
The actual test waveformTurbo ON, OCP Istep 7.5 A Istop 75.0A  
The actual test waveform

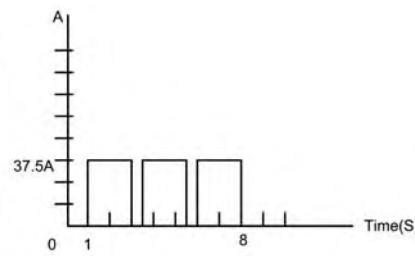
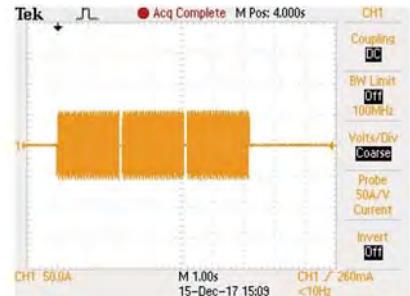
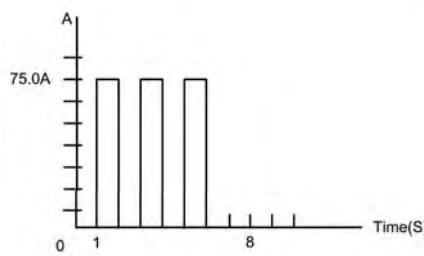
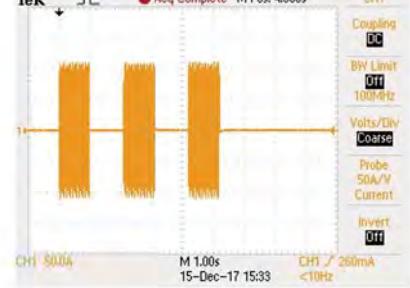
Basically, Fuse test has Trip (Blown) and Non-Trip (no Blown) 2 types.

Fuse Test setting parameters include test current (Istart), test time (Time), test REPEAT Time etc..

In the Trip fuse test, it is used to test when there is too large abnormal current the Fuse or Breaker must be able to provide the protection of the circuit break, that means current protection components need the fuse action, therefore the test current needs to be larger than the fuse current rating.

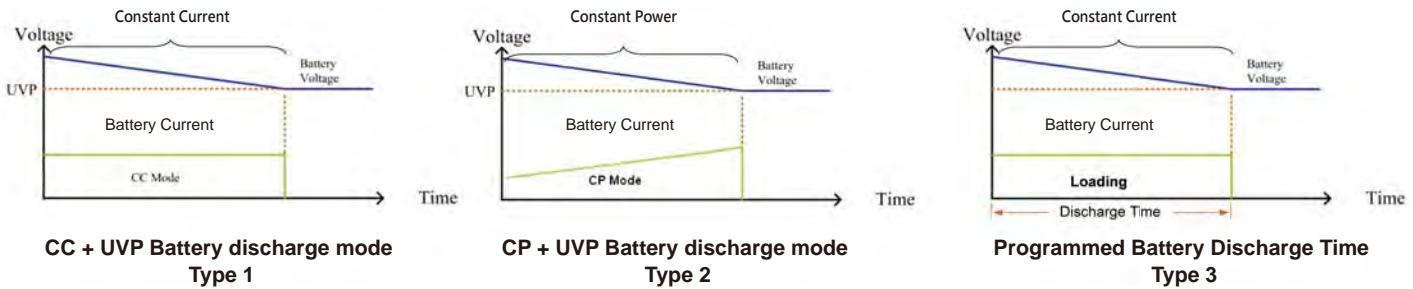
When the 3270 Series AC & DC electronic load detects a voltage lower than 1.0V, the LCD displays the number of Repeat Cycle and Current Protection Fusing Time XXXX.X sec.

In the Non-Trip (no Blown) test, the current protection component is required to achieve non-blow action, so the test current needs to be lower than the fuse current rating that is used to verify the fuse must not blow during normal current range. When the 3270 series AC & DC electronic load is not blown after the test time (Pulse Time) and the repeated Repeat number, the LCD displays the information of the Repeat number.

Turbo : OFF, Fuse mode  
Test result screenSetting : Turbo : OFF, Fuse ON  
CC pulse 37.5A, 2S, Test 3 cyclesTurbo : OFF, Fuse ON, CC pulse 37.5A, 2S,  
Test 3 cycles the actual test waveformTurbo ON, Fuse mode  
Test result screenSetting : Turbo : ON, Fuse ON  
CC pulse 75.0A, 1S, Test 3 cyclesTurbo : ON, Fuse ON, CC pulse 75A, 1S,  
Test 3 cycles the actual test waveform

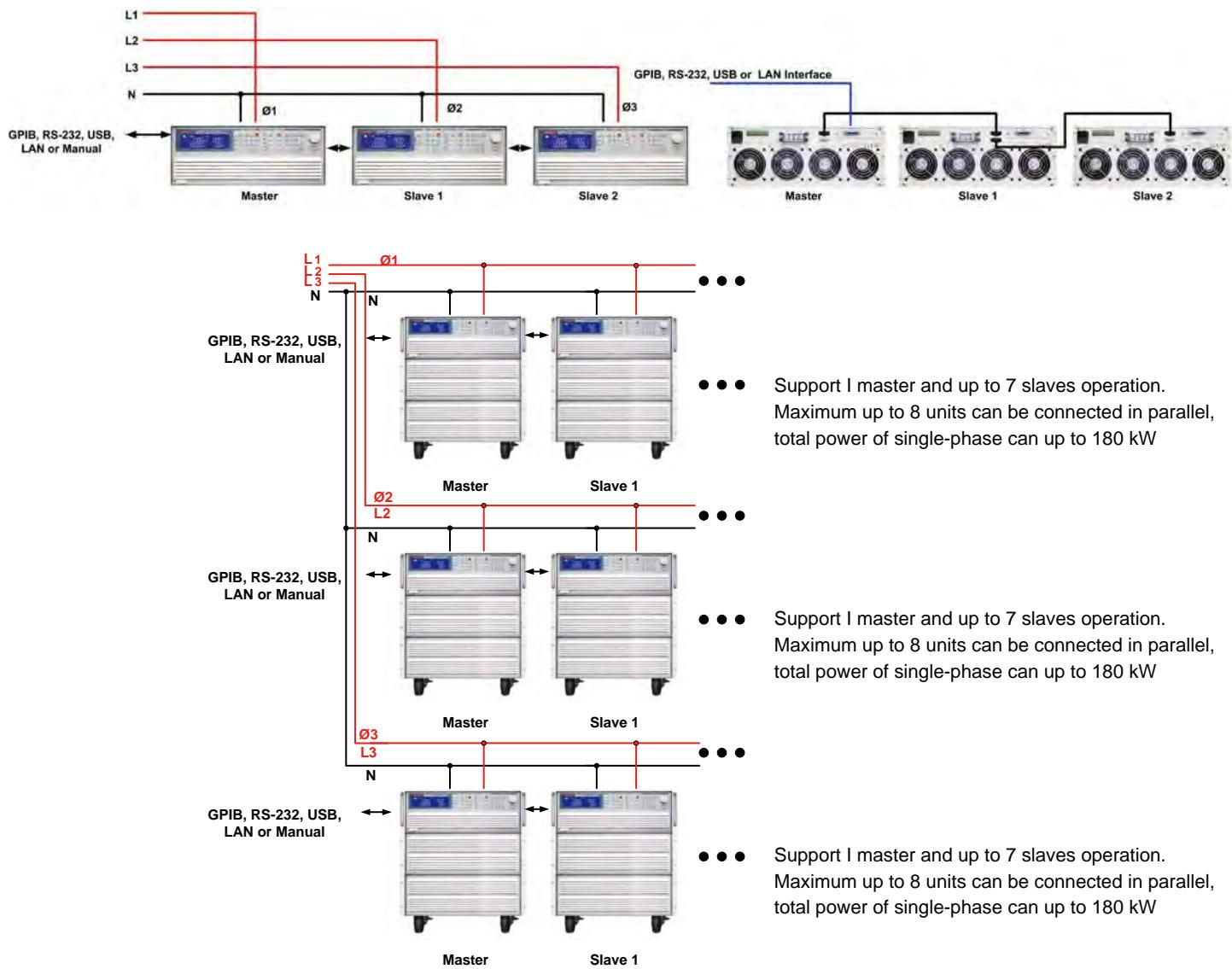
## Battery test function

3270 series AC & DC electronic load has built-in new TYPE1 ~ TYPE3 battery discharge test, you can select the desired battery test mode, the test results can be directly displayed on the LCD display for battery AH capacity, the voltage value after discharge and the cumulative discharge time.

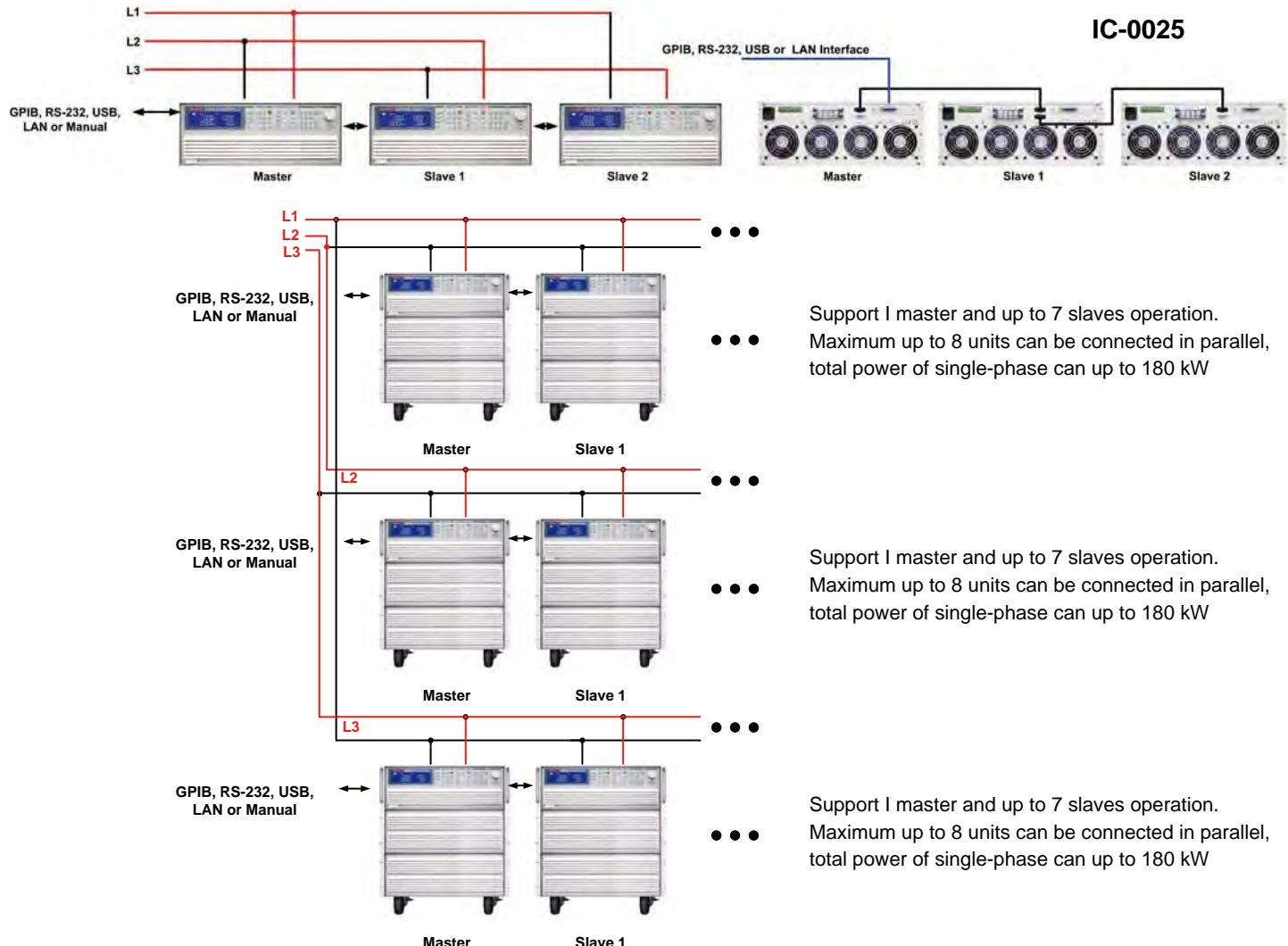


## Parallel and three-phase control

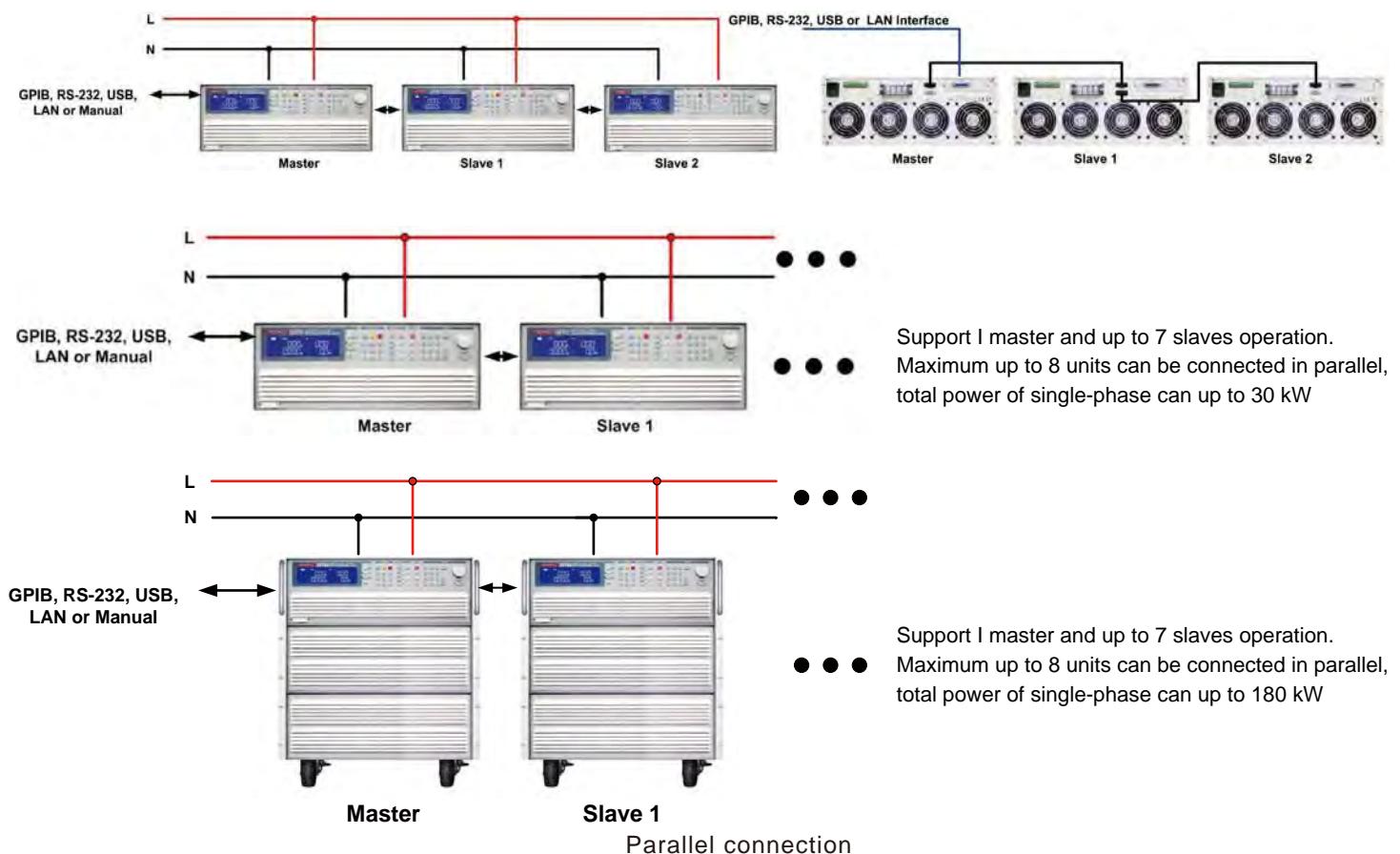
The 3270 Series AC & DC load provides multiple units in parallel, three-phase applications that allows users to test applications with greater power or three-phase AC power, this is more flexibility to use the 3270 Series AC & DC Electronic Load for control. In parallel / three-phase operation, the user operates the unit as the operation of a single machine, as long as the Master can be operated, Slave1 and Slave2 will automatically sink the load and measurement. Parallel and three-phase connection as shown below.



Maximum power of single-phase can up to 180KW, 3-phase total power up to 540KW 3-phase  $\Delta$  or Y Connection



Maximum power of single-phase can up to 180KW, 3-phase total power up to 540KW 3-phase △ or Y  
Connection parallel connection





	<b>LCD Multi-function display</b> Four meters can display the voltage value at the same time the Voltage ( Vrms, Vpeak, Vmax., Vmin ) ~ Current ( Irms, Ipeak, Imax., Imin. ) ~ Watt, Voltampere ( VA ) ~ Frequency ~ Crest Factor ~ Power Factor ~ Total Harmonic Distortion of Voltage ( VTHD ) ~ Voltage Harmonic ( VH ) ~ Total Harmonic Distortion of Current ( ITHD ) ~ Current Harmonic ( IH )		<b>Operate function keys</b> Mode ~ Preset ON/OFF ~ Load ON/OFF ~ Sense ON/OFF ~ Level A / B ~ Config ~ Limit ~ Recall ~ Store ~ SEQ ~ Local ~ System operate function keys
1		3	<b>Waveform library keys</b> Can be quickly set CF $\sqrt{2}$ / 2 / 2.5 / 3 / 3.5 , +/- PF 0.6 / 0.7 / 0.8 / 0.9 / 1.0 , FREQ Auto / 50Hz / 60Hz / 400Hz .
		4	<b>Test function keys</b> Can select Short / OPP / OCP / Non-L / NL-CR / Fuse / Batt (Battery Discharge) / Trans (UPS transfer time) test functions.
2	<b>Meter switch button</b> V/A/W keys can set the display Rms/Peak/Max/Min , Meter key can select PF/CF/FREQ , switchable display WATT/VA/VAR keys , THD key choose to display THD	6	<b>Numeric keypad</b>
		7	<b>Knob setting</b>
		8	<b>Switch</b>
		9	<b>Cursor and button setting</b>



10	AC power input connector		<b>Master-slave control connector</b> Master : Connect the top or bottom to the next unit Slave : The top connects to the previous unit and the bottom connects to the next unit
11	Vmonitor ~ Imonitor ~ Analog input ~ SYNC input Input terminal	13	
12	Vload, Vsense Input terminal	14	Communication interface (GPIB ~ RS-232 ~ USB ~ LAN)

## Specifications

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)		
PROTECTIONS					
Over Power Protection	≤ 3937.5 Wrms or Programmable	≤ 2940 Wrms or Programmable	≤ 1968.75 Wrms or Programmable	≤ 3937.5 Wrms or Programmable	≤ 2940 Wrms or Programmable
Over Current Protection	≤ 39.375 Arms or Programmable	≤ 29.4 Arms or Programmable	≤ 19.687 Arms or Programmable	≤ 29.4 Arms or Programmable	≤ 19.687 Arms or Programmable
Over Voltage 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 <sup>*1</sup>	0.010416mS / 16bits	0.0078137mS / 16bits	0.0052083mS / 16bits	0.006666mS / 16bits	0.004166mS / 16bits
Accuracy	±0.2% of ( setting + range ) @ 50/60Hz				
Constant Voltage Mode					
Range		50 ~ 350Vrms / 500Vdc		50 ~ 480Vrms / 700Vdc	
Resolution		0.1V		0.0125V	
Accuracy		±(0.1% of setting + 0.1% of range) @ 50/60Hz			
Constant Power Mode					
Range	3750W	2800W	1875W	3750W	2800W
Resolution	0.1W	0.1W	0.1W	0.1W	0.1W
Accuracy	±(0.1% of setting + 0.1% of 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)					
UVP(VTH)		50 ~ 350Vrms / 500Vdc		50 ~ 480Vrms / 700Vdc	
UPS Back-Up Time			1 ~ 99999 Sec. (>27H)		
Battery Discharge function(CC,LIN,CR,CP)					
UVP (VTH)		50 ~ 350Vrms / 500Vdc		50 ~ 480Vrms / 700Vdc	
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
UVP (VTH)			2.5V		
Time range			0.15mS ~ 999.99mS		
Fuse Test mode					
Max. Current	Turbo OFF	37.5Arms	28.0Arms	18.75Arms	28.0Arms
	Turbo ON	75.0Arms (x2) <sup>*3</sup>	56.0Arms (x2) <sup>*3</sup>	37.5Arms (x2) <sup>*3</sup>	56.0Arms (x2) <sup>*3</sup>
Trip & Non-Trip Time	Turbo OFF			0.1 ~ 9999.9sec.	
	Turbo ON			0.1 ~ 1.0sec.	
Meas. Accuracy				±0.003 Sec.	
Repeat Cycle				0 ~ 255	

## Specifications

MODEL		3270	3271	3272	3273	3274									
<b>Short/OPP/OCP Test Function</b>															
Short Time	Turbo OFF	0.1S ~ 10Sec. Or Cont.													
	Turbo ON	0.1S ~ 1Sec													
OPP/OCP 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 * <sup>3</sup>	56.0Arms * <sup>3</sup>	37.5Arms * <sup>3</sup>	56.0Arms * <sup>3</sup>	37.5Arms * <sup>3</sup>									
OPP Pstop	Turbo OFF	3750W	2800W	1875W	3750W	2800W									
	Turbo ON	7500W	5600W	3750W	7500W	5600W									
<b>Programmable Inrush current simulation: Istart - Istop / Tsep</b>															
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										
<b>Programmable Surge current simulation: S1/T1 - S2/T2 - S3/T3</b>															
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.												
<b>MEASUREMENTS</b>															
<b>VOLTAGE READBACK A METER</b>															
Range	500V			700V											
Resolution	0.01V			0.0125V											
Accuracy	± 0.05% of ( reading + range )														
Parameter	Vrms, V Max / Min, +/-Vpk														
<b>CURRENT READBACK A METER</b>															
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														
<b>WATT READBACK W METER</b>															
Range	3750W	2800W	1875W	3750W	2800W										
Resolution	0.0625W	0.05W	0.03125W	0.0625W	0.05W										
Accuracy	±0.1% of ( reading + range )														
VA METER	VrmsxArms Correspond To Vrms and Arms														
<b>Power Factor METER</b>															
Range	+/- 0.000~1.000														
Accuracy	± ( 0.002 ± ( 0.001 / PF ) * F )														
<b>Frequency METER(V)</b>															
Range	DC,40~440Hz			DC,40~70Hz											
Accuracy	0.1%														
<b>Other Parameter METER</b>															
VA, VAR, CF_I, Ipeak, Imax., Imin. Vmax., Vmin., IHd, VHd, ITd, VTd															
<b>OTHERS</b>															
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	Positive 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(OPTION)	F.S / 10Vdc, Resolution 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 * <sup>2</sup>	0 ~ 40 °C														
Current of input impedance (mA) @50/60Hz ; @400Hz	約 V*0.6 ; 約 V*4.4	約 V*0.45 ; 約 V*3.3	約 V*0.3 ; 約 V*2.2	約 V*0.4 ; 約 V*2.95	約 V*0.3 ; 約 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										

Input AC Power : 115/230 Vac ±10% , 50/60Hz

Cooling : Advanced Fan Cooled

\*1 ms (millisiemens) is the unit of conductance(G), one siemens equal to 1/kΩ

\*2 Operating temperature range is 0~40°C, all specification apply for 25°C±5°C, Except as noted

\*3 Turbo mode for up to 2X Current rating &amp; Power rating support Fuse, Short/OCP/OPP test function

## Specifications

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)			
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 Voltage 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			50 ~ 350Vrms / 500Vdc			
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	±0.2% 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)						
UVP(VTH)			50 ~ 350Vrms / 500Vdc			
UPS Back-Up Time			1 ~ 99999 Sec. (>27H)			
Battery Discharge function(CC,LIN,CR,CP)						
UVP (VTH)			50 ~ 350Vrms / 500Vdc			
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
UVP (VTH)			2.5V			
Time range			0.15mS ~ 999.99mS			
Fuse Test mode						
Max. Current	Turbo OFF	56Arms	75Arms	112.5Arms	112.5Arms	112.5Arms
	Turbo ON	112Arms (x2) *3	150Arms (x2) *3	225Arms (x2) *3	225Arms (x2) *3	225Arms (x2) *3
Trip & Non-Trip	Turbo OFF			0.1 ~ 9999.9sec.		
	Turbo ON			0.1 ~ 1.0sec.		
Meas. Accuracy				±0.003 Sec.		
Repeat Cycle				0 ~ 255		

## Specifications

MODEL	32711	32701	32702	32703	32704	32705						
<b>Short/OPP/OCP Test Function</b>												
Short Time	Turbo OFF	0.1S ~ 10Sec. Or Cont.										
	Turbo ON	0.1S ~ 1Sec										
OPP/OCP Step Time	Turbo OFF	100ms										
	Turbo ON	100ms, up to 10 Steps										
OCP Istop	Turbo OFF	56Arms	75Arms	112.5Arms	112.5Arms	112.5Arms						
	Turbo ON	112Arms	150Arms	225Arms	225Arms	225Arms						
OPP Pstop	Turbo OFF	5600W	7500W	11250W	15000W	18750W						
	Turbo ON	11200W	15000W	22500W	30000W	37500W						
<b>Programmable Inrush current simulation: Istart - Istop / Tsep</b>												
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						
<b>Programmable Surge current simulation: S1/T1 - S2/T2 - S3/T3</b>												
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.											
<b>MEASUREMENTS</b>												
<b>VOLTAGE READBACK V METER</b>												
Range	500V											
Resolution	0.01V											
Accuracy	±0.05% of (reading + range)											
Parameter	Vrms, V Max/Min, +/-Vpk											
<b>CURRENT READBACK A METER</b>												
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											
<b>WATT READBACK W METER</b>												
Range	5600W	7500W	11250W	15000W	18750W	22500W						
Resolution	0.1W	0.125W	0.1875W	0.25W	0.3125W	0.375W						
Accuracy	±0.2% of ( reading + range )											
VA METER	Vrms×Arms Correspond To Vrms and Arms											
<b>Power Factor METER</b>												
Range	+/- 0.000~1.000											
Accuracy	±(0.002±(0.001/PF)*F)											
<b>Frequency METER</b>												
Range	DC,40~440Hz											
Accuracy	0.1%											
<b>Other Parameter METER</b>												
VA, VAR, CF_I, Ipeak, Imax., Imin., Vmax., Vmin., IHD, VHD, ITHD, VTHD												
<b>OTHERS</b>												
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	Positive 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 (OPTION)	F.S / 10Vdc, Resolution 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 <sup>*2</sup>	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						

Input AC Power : 115/230 Vac ±10% , 50/60Hz

Cooling : Advanced Fan Cooled

\*1 ms (millisiemens) is the unit of conductance(G), one siemens equal to 1/kΩ

\*2 Operating temperature range is 0~40°C, all specification apply for 25°C±5°C, Except as noted

\*3 Turbo mode for up to 2X Current rating &amp; Power rating support Fuse, Short/OCP/OPP test function