

AEL-5000 Series AC & DC Electronic Load

Inrush and Surge current simulation



When performing an inrush current test in the evaluation and testing of UPS and commercial inverters, it takes a lot of time to prepare the actual load or set the test circuit and the required inrush current value to reproduce the inrush current.

The AEL-5000 series support a simulator function to simulate the capacitive load inrush current and power-on time, such as the reproduction of surge current when the power is directly plugged into commercial power.

The 3.75kW model is a 4U size, 33.5kg ultra-compact AC / DC electronic load.



CC, Linear CC, CR, CV, CP and AC Rectifier Load Mode

Frequency Range : DC, 40~440Hz

Turbo Mode for 2 Times the Current and Power of Electronic Load within 1 second

Three Units Parallel up to 90kW and Three-phase Δ or Y Load Connection Can be Synchronized Control by One Master Unit

Loading and Unloading Angle Control; 0~359 Degree is Settable

Positive Half-cycle or Negative Half-cycle Loading

Supports SCR/TRIAC Current Phase Modulation Waveforms, 90 Degree Trailing Edge and Leading Edge

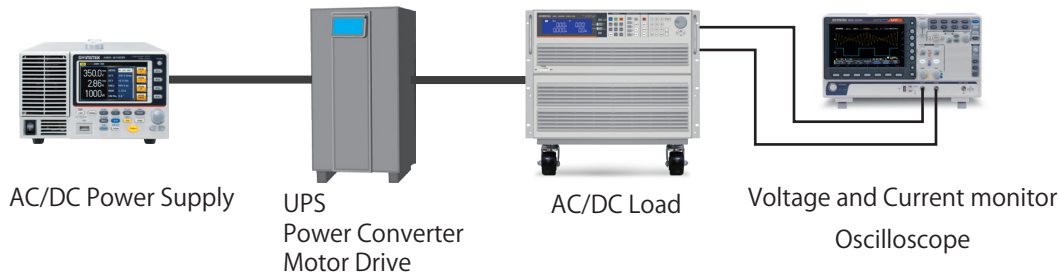
Optional Interface : GPIB、RS232、USB、LAN



MODEL	Power (W)	Current(A)	Voltage(Volt)
AEL-5002-350-18.75	1875 W	18.75 Arms / 56.25Apeak	50~350Vrms / 500Vdc
AEL-5003-350-28	2800W	28 Arms / 84Apeak	
AEL-5004-350-37.5	3750 W	37.5 Arms / 112.5Apeak	
AEL-5002-425-18.75	1875 W	18.75 Arms / 56.25Apeak	50~425Vrms / 600Vdc
AEL-5003-425-28	2800W	28 Arms / 84Apeak	
AEL-5004-425-37.5	3750 W	37.5 Arms / 112.5Apeak	
AEL-5006-350-56	5600 W	56.0 Arms / 168Apeak	50~350Vrms / 500Vdc
AEL-5008-350-75	7500 W	75.0 Arms / 225Apeak	
AEL-5012-350-112.5	11250W	112.5 Arms / 337.5Apeak	
AEL-5015-350-112.5	15000W	112.5 Arms / 337.5Apeak	
AEL-5019-350-112.5	18750W	112.5 Arms / 337.5Apeak	
AEL-5023-350-112.5	22500W	112.5 Arms / 337.5Apeak	50~425Vrms / 600Vdc
AEL-5006-425-56	5600 W	56.0 Arms / 168Apeak	
AEL-5008-425-75	7500 W	75.0 Arms / 225Apeak	
AEL-5012-425-112.5	11250W	112.5 Arms / 337.5Apeak	
AEL-5015-425-112.5	15000W	112.5 Arms / 337.5Apeak	
AEL-5019-425-112.5	18750W	112.5 Arms / 337.5Apeak	50~480Vrms / 700Vdc
AEL-5023-425-112.5	22500W	112.5 Arms / 337.5Apeak	
AEL-5003-480-18.75	2800W	18.75 Arms / 56.25Apeak	
AEL-5004-480-28	3750 W	28 Arms / 84Apeak	

When evaluating or testing the inrush current of UPS, commercial inverters, motor drivers, etc., it takes a lot of time to prepare an actual load for testing, creates a test circuit, and sets the required inrush current value.

The surge current can be easily reproduced by using the AEL-5000, which has a simulator function. By setting various parameters of AEL-5000, you can easily perform the required capacitive inrush current, simulation at power-on, and test when the power is directly plugged into an electric appliance.



Inrush current simulation waveform



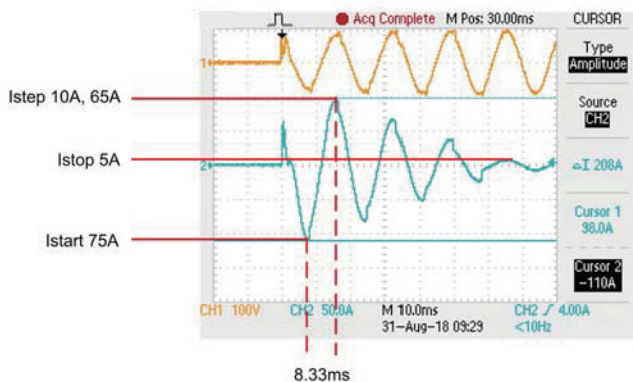
Example: AEL-5004-350-37.5 Inrush current simulation

Istart Setting range(Start current): 0~75A

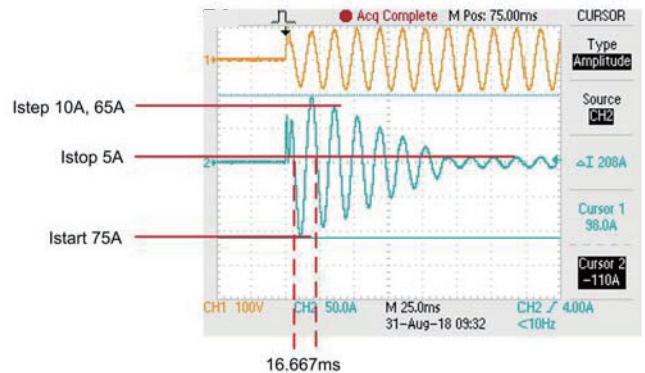
Tstep Setting range(Duration time): 0.1ms~100msec

Istop Setting range(Stop current): 0~37.5A

Vinput: 60V, 60Hz
 Istart (Inrush Start Current): 75A
 Istep: 10A
 Tstep (Inrush Step Time): 8.333ms
 Istop(Inrush Stop Current): 5A



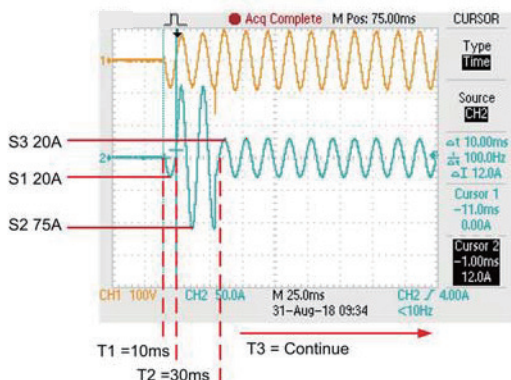
Vinput: 60V, 60Hz
 Istart (Inrush Start Current): 75A
 Istep: 10A
 Tstep (Inrush Step Time): 16.667ms
 Istop(Inrush Stop Current): 5A



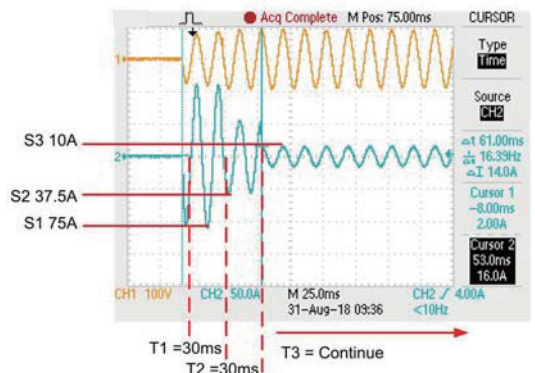
Inrush current Test at boot

Surge current simulation waveform

Vinput: 60V, 60Hz
 S1(Surge current 1): 20A, T1(T step 1): 0.01s
 S2(Surge current 2): 75A, T2(T step 2): 0.03s
 S3(Surge current 3): 20A, T3(T step 3): continue



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



Surge current Test at boot