

Battery Simulator ANEVS(F) Series



Product Introduction

The ANEVS(F) Series Battery Simulator has both battery simulation and photovoltaic simulation functions. It can simulate the charging and discharging characteristics of power lithium batteries, meeting the test requirements of new energy vehicle motors, electric drive systems, whole vehicle systems, energy storage inverters, and other devices or systems. It can also simulate the characteristics of photovoltaic cell panels, meeting the test requirements of photovoltaic inverters and photovoltaic energy storage inverter integrated machines.

It adopts high-frequency PWM rectification technology, bidirectional DC conversion technology, and FPGA digital control technology. It features bidirectional energy flow, seamless switching between forward and reverse directions, and adaptive grid capabilities. It also has programmable protection parameter settings and output parameter limit settings, ensuring better safety for the device under test.

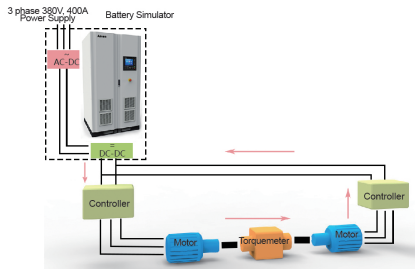
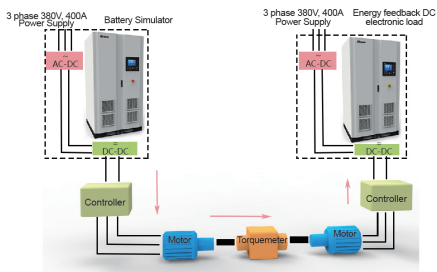
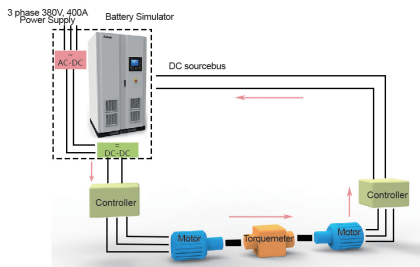
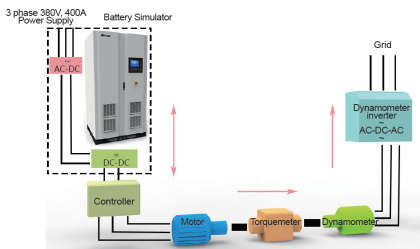
Features

- It is a photovoltaic simulation and battery simulation integrated machine. It supports CV, CC, CP and CR working modes.

- Voltage 0.05%FS and current 0.1%FS.
- Response times $\leq 3\text{ms}$; switching times $\leq 4\text{ms}$.
- Power factor ≥ 0.99 , current harmonic distortion $\leq 3\%$.
- It supports simulation of 7 types of batteries including ternary lithium, lithium iron phosphate, lithium titanium oxide, lithium cobalt oxide, lithium manganese oxide, nickel-metal hydride, and lead-acid batteries.
- It supports custom battery modes, with 1st, 2nd, and 3rd order battery models and internal resistance models, and allows for import and export of data in CSV and mat formats.
- It features photovoltaic characteristic V curve simulation function, supporting various types of solar battery panels and realistic simulation under different environmental conditions, with built-in standard curves such as Sandia and EN50530. It supports static and dynamic photovoltaic simulation.
- It provides 900-step programming function with a minimum programming time of 1ms.
- It supports standard CAN, RS232/RS485, LAN and other communication interfaces.

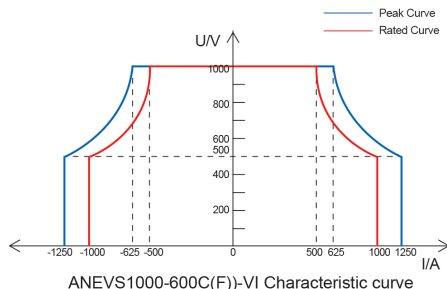
Application

- Testing of electric vehicle motors and controllers.
- Tests of electric vehicle transmission systems and powertrain systems.
- Tests of special electric vehicle motors, controllers, electric vehicle transmission systems, and powertrain systems.
- New energy motor system test.
- Tests of vessel electric transmission and electric drive systems.
- Charger and charging pile tests.
- Capacitor and super capacitor charging and discharging tests.
- Energy storage system inverter test.
- UPS and EPS system tests.
- Hybrid power test.
- Suitable for high power DC test power supply applications.
- Battery pack charging and discharging tests.
- It has simulated batteries for alternative real battery power supply testing scenarios.

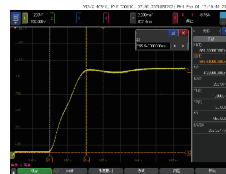
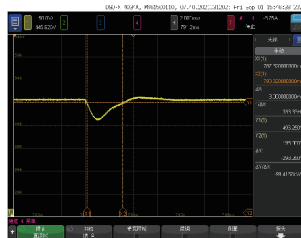


Output VI characteristic curve

It features advanced IGBT parallel connection technology, delivering higher peak power and peak current output, as demonstrated by ANEVS1000-600C(F) and ANEVS1000-600C(F).



Fast dynamic response characteristics



Specifications

Product series	Product model	Rated current	Rated power	Peak current	Peak power	Voltage range	Dimension /mm (W×D×H)
800V Series	ANEVS800-200C(F)	200A	60KW	300A	90KW	24V-800V	1000×1000×2100
	ANEVS800-300C(F)	300A	90KW	450A	135KW	24V-800V	1000×1000×2100
	ANEVS800-400C(F)	400A	120KW	500A	150KW	24V-800V	1000×1000×2100
	ANEVS800-500C(F)	500A	160KW	600A	200KW	24V-800V	1500×1000×2100
	ANEVS800-600C(F)	600A	200KW	750A	250KW	24V-800V	1500×1000×2100
	ANEVS800-800C(F)	800A	300KW	1000A	375KW	24V-800V	1500×1200×2200
	ANEVS800-900C(F)	900A	400KW	1125A	500KW	24V-800V	2000×1200×2200
	ANEVS800-1000C(F)	1000A	500KW	1250A	625KW	24V-800V	2000×1200×2200
	ANEVS800-1200C(F)	1200A	600KW	1500A	750KW	24V-800V	2000×1200×2200
1000V Series	ANEVS1000-150C(F)	150A	60KW	225A	90KW	24V-1000V	1000×1000×2100
	ANEVS1000-200C(F)	200A	90KW	300A	135KW	24V-1000V	1000×1000×2100
	ANEVS1000-300C(F)	300A	120KW	375A	150KW	24V-1000V	1000×1000×2100
	ANEVS1000-500C(F)	500A	160KW	625A	200KW	24V-1000V	1500×1000×2100
	ANEVS1000-600C(F)	600A	200KW	750A	250KW	24V-1000V	1500×1000×2100
	ANEVS1000-800C(F)	800A	300KW	1000A	375KW	24V-1000V	1500×1200×2200
	ANEVS1000-900C(F)	900A	400KW	1125A	500KW	24V-1000V	2000×1200×2200
	ANEVS1000-1000C(F)	1000A	500KW	1250A	625KW	24V-1000V	2000×1200×2200
	ANEVS1000-1200C(F)	1200A	600KW	1500A	750KW	24V-1000V	2000×1200×2200
1200V Series	ANEVS1200-150C(F)	150A	60KW	225A	90KW	24V-1200V	1000×1000×2100
	ANEVS1200-200C(F)	200A	90KW	300A	135KW	24V-1200V	1000×1000×2100
	ANEVS1200-300C(F)	300A	120KW	375A	150KW	24V-1200V	1000×1000×2100
	ANEVS1200-500C(F)	500A	160KW	625A	200KW	24V-1200V	1500×1000×2100
	ANEVS1200-600C(F)	600A	200KW	750A	250KW	24V-1200V	1500×1000×2100
	ANEVS1200-800C(F)	800A	300KW	1000A	375KW	24V-1200V	1500×1200×2200
	ANEVS1200-900C(F)	900A	400KW	1125A	500KW	24V-1200V	2000×1200×2200
	ANEVS1200-1000C(F)	1000A	500KW	1250A	625KW	24V-1200V	2000×1200×2200
	ANEVS1200-1200C(F)	1200A	600KW	1500A	750KW	24V-1200V	2000×1200×2200
1500V Series	ANEVS1500-160C(F)	160A	90KW	240A	135KW	48V-1500V	1200×1200×2100
	ANEVS1500-300C(F)	300A	200KW	375A	250KW	48V-1500V	2000×1000×2100
	ANEVS1500-500C(F)	500A	300KW	625A	375KW	48V-1500V	3000×1000×2100
	ANEVS1500-600C(F)	600A	400KW	750A	500KW	48V-1500V	3000×1000×2100
	ANEVS1500-800C(F)	800A	600KW	1000A	750KW	48V-1500V	3000×1200×2200
	ANEVS1500-1000C(F)	1000A	1000KW	1250A	1250KW	48V-1500V	4000×1200×2200
2000V Series	ANEVS2000-160C(F)	160A	90KW	240A	135KW	48V-2000V	1200×1200×2100
	ANEVS2000-200C(F)	200A	200KW	250A	250KW	48V-2000V	2000×1000×2100
	ANEVS2000-500C(F)	500A	300KW	625A	375KW	48V-2000V	3000×1000×2100
	ANEVS2000-600C(F)	600A	400KW	750A	500KW	48V-2000V	3000×1000×2100
	ANEVS2000-800C(F)	800A	600KW	1000A	750KW	48V-2000V	3000×1200×2200
	ANEVS2000-1000C(F)	1000A	1000KW	1250A	1250KW	48V-2000V	4000×1200×2200

Any changes to the above parameter specifications will not be notified separately.

Safety Analyzer

AC Power Supply

DC Power Supply

Motor Test Scheme

Power Analyzer

Electronic Load

Specifications

Product name		Battery simulator
Input parameter	Input method	Three-phase four-wire+PE
	Input voltage	Line voltage: 380V±15%
	Input frequency	50/60Hz±5Hz
	Input power factor	0.99
	Input electric harmony	3% (under rated conditions)
Output parameter	Voltage accuracy	0.05%F.S
	Current accuracy	0.1%F.S
	Power accuracy	0.2%F.S
	Power effect	0.1%F.S
	Load effect	0.1%F.S
	Ripple (Vpp)	0.2%F.S
	Transient recovery time	≤3ms (10%-90% rated resistive load switching)
Feedback parameter	Current rise time	≤3ms (loading test after starting output)
	Feedback voltage	323-437V
	Feedback frequency	Grid frequency (45Hz-65Hz)
	Power factor	≥0.99
	Total harmonic content	≤3% (tested under conditions of standard AC power input with distortion within 1.5%)
	Forward and reverse output switching	≤4ms
	Feedback function	Full power continuous energy feedback
Product feature	Working mode	CV, CC, CP and CR
	Output programming	It allows programmable output voltage waveforms, including voltage and current slopes, steps, cyclic control, and jump control.
	Emergency stop	With emergency stop button, it can quickly disconnect the connection with the load equipment
	Battery simulation	It can simulate models of 7 types of batteries including ternary lithium, lithium manganese oxide, lithium titanium oxide, lithium cobalt oxide, lithium iron phosphate, lead-acid, and nickel-metal hydride. It has customizable battery cell capacity, series and parallel connection quantities, SOC, and temperature parameters with 1st, 2nd, and 3rd order battery models and internal resistance models, supporting import and export of data in mat and CSV data formats.
	Photovoltaic simulation	It can set parameters such as VOC, ISC, VMP, IMP, FF, etc., with built-in standard curves such as Sandia and EN50530. It supports static and dynamic photovoltaic curves, as well as settings for temperature, shading, and other environmental parameters.
	Output ramp-up function	Programmable output voltage ramp-up
	Self-discharge function	It has a built-in discharge unit, which automatically discharges upon shutdown.
	Protection function	It has input undervoltage protection, input overcurrent protection, input phase loss protection, output overcurrent protection, output short-circuit protection, bus overvoltage protection, internal overheating protection, programmable OVP LVP OCP LVP OPP protection parameter values, and enable protection functions.
	Line drop compensation	It features automatic voltage drop compensation terminals, automatically compensating for cable voltage drop
	Display resolution	Voltage 0.001V Current 0.001A Power 0.001kW
Display and operation	Display mode	LCD
	Operation mode	Number key, knob and touch screen three-in-one
	Serial interface	Standard RS232/RS485 (select one)
Communication interface	CAN interface	Supports CAN2.0 protocol. Communication data update frequency ≥50Hz
	Ethernet	Supports the Ethernet communications
	Analog interface	Supports external analog emergency stop switch quantity input control
Safety performance working environment	Insulation resistance	≥2MΩ (tested at 1,000V insulation voltage)
	Compressive strength	2,000VDC 5mA/min
	Grounding resistance	≤100mΩ
	Working temperature	0℃-40℃
	Working humidity	20-90%RH (no condensation)
	Altitude	≤2,000m
	Storage temperature	-10℃-70℃
Noise		≤75dB
Cooling method		Temperature-controlled air cooling. It has a built-in temperature-controlled variable speed fan.
Protection level		IP21

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