

High Power Bidirectional DC Power Supply ANEVT(F) Series



Product Introduction

The ANEVT(F) Series High Precision bidirectional DC test power supply is a high-tech product integrated with high-frequency PWM rectification technology, bidirectional DC conversion technology, and FPGA digital control technology. It has adaptive grid feedback capability and can meet the continuous energy feedback requirements in the full power range. It also offers seamless switching between forward and reverse outputs, enabling seamless connection of energy transfer. With dual-loop control technology, it achieves ultra-high control precision, rapid response to customer device applications, ensuring equipment test stability and data precision. With its wide range of voltage and current output capabilities and rich output programming test functions, it better meets the diverse testing needs of customers' products. The device also includes multiple protection programming functions to better protect the safety of customer equipment during testing. Additionally, numerous additional product features enhance the stability and reliability of equipment operation.

Features

- It is a battery simulation, bidirectional output multifunctional integrated machine.

- It provides the source load integral mode with adjustable parameters.
- It has high voltage, large current, and wide range output capabilities.
- It features adaptive grid feedback function for full power continuous energy feedback.
- It supports CV, CC, CP, and CR working modes. Voltage 0.05%FS and current 0.1%FS.
- Response time $\leq 3\text{ms}$; forward and reverse switching time $\leq 4\text{ms}$.
- Power factor ≥ 0.99 , current harmonic distortion $\leq 3\%$.
- It simulates 7 types of batteries such as lithium, nickel-hydrogen, lead-acid, etc.
- It has 1st, 2nd, and 3rd order battery simulation functions, supporting import and export of data in mat and csv data formats.
- It provides 900-step programming function with a minimum programming time of 1mS.
- It features independent air duct heat dissipation design, supporting long-term continuous operation of the equipment.
- It is equipped with standard CAN, RS232/RS485, LAN and other communication interfaces.
- It offers a three-in-one operation mode of buttons, knobs, and touch operation.
- It provides a high-brightness large-screen LCD display.

Specifications

Product series	Product model	Rated current	Rated power	Peak current	Peak power	Voltage range	Dimension /mm (W×D×H)
500V Series	ANEVT500-200C(F)	200A	60kW	300A	90KW	24V-500V	1000×1000×2100
	ANEVT500-300C(F)	300A	90kW	450A	135KW	24V-500V	1000×1000×2100
	ANEVT500-400C(F)	400A	120kW	500A	150KW	24V-500V	1000×1000×2100
800V Series	ANEVT800-200C(F)	200A	60kW	300A	90KW	24V-800V	1000×1000×2100
	ANEVT800-300C(F)	300A	90kW	450A	135KW	24V-800V	1000×1000×2100
	ANEVT800-400C(F)	400A	120kW	500A	150KW	24V-800V	1000×1000×2100
	ANEVT800-500C(F)	500A	160kW	625A	200KW	24V-800V	1500×1000×2100
	ANEVT800-600C(F)	600A	200kW	750A	250KW	24V-800V	1500×1000×2100
	ANEVT800-800C(F)	800A	300kW	1000A	375KW	24V-800V	1500×1200×2200
	ANEVT800-900C(F)	900A	400kW	1125A	500KW	24V-800V	2000×1200×2200
	ANEVT800-1000C(F)	1000A	500kW	1250A	625KW	24V-800V	2000×1200×2200
	ANEVT800-1200C(F)	1200A	600kW	1500A	750KW	24V-800V	2000×1200×2200
	ANEVT800-2000C(F)	2000A	1000kW	2500A	1300KW	24V-800V	4000×1200×2200
1000V Series	ANEVT1000-150C(F)	150A	60kW	225A	90kW	24V-1000V	1000×1000×2100
	ANEVT1000-200C(F)	200A	90kW	300A	135KW	24V-1000V	1000×1000×2100
	ANEVT1000-300C(F)	300A	120kW	375A	150KW	24V-1000V	1000×1000×2100
	ANEVT1000-500C(F)	500A	160kW	625A	200KW	24V-1000V	1500×1000×2100
	ANEVT1000-600C(F)	600A	200kW	750A	250KW	24V-1000V	1500×1000×2100
	ANEVT1000-800C(F)	800A	300kW	1000A	375KW	24V-1000V	1500×1200×2200
	ANEVT1000-900C(F)	900A	400kW	1125A	500KW	24V-1000V	2000×1200×2200
	ANEVT1000-1000C(F)	1000A	500kW	1250A	625KW	24V-1000V	2000×1200×2200
	ANEVT1000-1200C(F)	1200A	600kW	1500A	750KW	24V-1000V	2000×1200×2200
1200V Series	ANEVT1000-2000C(F)	2000A	1000kW	2500A	1300KW	24V-1000V	4000×1200×2200
	ANEVT1200-150C(F)	150A	60kW	225A	90kW	24V-1200V	1000×1000×2100
	ANEVT1200-200C(F)	200A	90kW	300A	135KW	24V-1200V	1000×1000×2100
	ANEVT1200-300C(F)	300A	120kW	375A	150KW	24V-1200V	1000×1000×2100
	ANEVT1200-500C(F)	500A	160kW	625A	200KW	24V-1200V	1500×1000×2100
	ANEVT1200-600C(F)	600A	200kW	750A	250KW	24V-1200V	1500×1000×2100
	ANEVT1200-800C(F)	800A	300kW	1000A	375KW	24V-1200V	1500×1200×2200
	ANEVT1200-900C(F)	900A	400kW	1125A	500KW	24V-1200V	2000×1200×2200
	ANEVT1200-1000C(F)	1000A	500kW	1250A	625KW	24V-1200V	2000×1200×2200
	ANEVT1200-1200C(F)	1200A	600kW	1500A	750KW	24V-1200V	2000×1200×2200
1200V Series	ANEVT1200-2000C(F)	2000A	1000kW	2500A	1300KW	24V-1200V	4000×1200×2200

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

Application

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

Specifications

Product name		High Power Bidirectional DC Power Supply	
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 time	≤4ms	
	Feedback function	Full power continuous energy feedback	
Product feature	Working mode	CV, CC, CP and CR	
	Output programming	It provides programmable output voltage waveform, including voltage and current slope, step, cyclic control, and jump control; 900-step programming function, with the minimum programming time of 1ms.	
	Emergency stop	With emergency stop button, it can quickly disconnect the connection with the load equipment	
	Battery simulation	It can simulate functions 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 simulation functions, supporting import and export of data in mat and csv data formats.	
	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 multiple protection devices, input protection devices, OCP, OVP, OPP, OTP, bus overvoltage protection, output short circuit protection, etc.	
	Voltage drop compensation	It features automatic voltage drop compensation terminals, automatically compensating for cable voltage drop	
Display and operation	Display resolution	Voltage	0.001V
		Current	0.001A
		Power	0.001kW
Communication interface	Display mode	LCD	
	Operation mode	Number key, knob and touch screen three-in-one	
	Serial interface	Standard RS232/RS485 (select one)	
	CAN interface	Supports CAN2.0 protocol (AORB). Communication data update frequency ≥50Hz	
	Ethernet	Supports Ethernet communication (standard)	
	Analog interface	Supports external analog emergency stop switch quantity input control	
Safety performance	Insulation resistance	≥2MΩ (tested at 1,000V insulation voltage)	
	Compressive strength	2000VDC 5mA/min	
	Grounding resistance	≤100mΩ	
Working environment	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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