



Ainuo Instrument Co., Ltd.

## Ainuo

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Jinan Company



Qingdao Company

## 20000+m<sup>2</sup>

Qingdao Industrial Park

## 12000+m<sup>2</sup>

Jinan Industrial Park

## 620<sup>+</sup>

Total employees

190+

R&D

1993

Since

# **COMPANY**

Founded in 1993 in the Qilu region, Ainuo Instruments Co., Ltd. operates self-built industrial parks in Jinan and Qingdao. For 30 years, the company has focused on the research, development, and production of electrical measuring instruments, test power supplies, and specialized power systems. Ainuo has focused on scientific research and technological innovation for many years and has won many honors such as National High-tech Enterprise, Shandong "Specialized and Innovative" Small and Medium-sized Enterprise, Qingdao New Economic Potential Enterprise, Qingdao New Economic Emerging Enterprise, Qingdao Young Eagle Enterprise, and Qingdao "One Enterprise, One Technology" R&D Center. Ainuo also actively supports industry development, serving as a governing member of the China Power Supply Society and the Shandong Aerospace Society.

Ainuo's core products include electrical safety testers, AC/DC power supplies, ground PSU for aircraft, motor test systems, power analyzers, and AC/DC electronic loads. These are widely used in sectors such as new energy, electric vehicles, household appliances, motor manufacturing, and switch-mode power supplies, as well as in aerospace, naval, railway systems, defense, and power utilities. They also serve quality inspection agencies and research institutes. All Ainuo products possess complete independent intellectual property rights, with over 300 proprietary intellectual property items, including more than 90 invention patents, and the company has led or participated in the formulation of multiple national standards, industry standards, and metrology procedures and specifications.

Ainuo Instruments adheres to a customer-centric approach, with core values of integrity, inclusiveness, continuous improvement, and excellence. The company's mission is to provide customers with precise, efficient, and world-class test&measurement technical solutions. It is committed to continuous business improvement, enhancing customer value with quality and innovation, and achieving outstanding performance. Ainuo aspires to follow the path of innovation, build a century-old enterprise, and become a global leader in test&measurement technical solutions.

## Ainuo

#### Company Qualification











Shandong Gazelle Enterprise

Science and Technology Progress Award

High-tech Enterprise Certificate







CE Certificate

«Leakage Current tester»

«Withstanding Voltage tester»

China eletrical industrial standard

China eletrical industrial standard

"General specification for digital power analyzer"

China national standard

8

9

Quality Management System Certification - Shandong Ainuo

Quality Management System Certificate -- Qingdao Ainuo

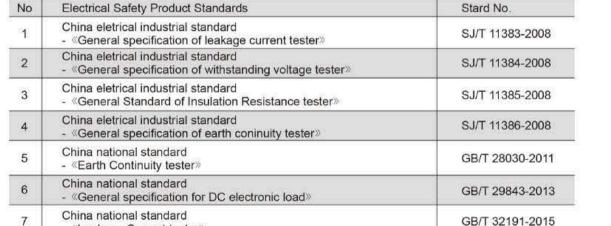
GB/T 32192-2015

SJ/T 10691-2022

SJ/T 11821-2022

#### China Electrical Safety Product Standards That Ainuo Participated in Drafting

General specification for variable frequency and voltage power supplies»





## Safety Analyzer

Electrical Safety Comprehensive Analyzer

Constant Current AC Power Supply

Electrical Safety Comprehensive Analyzer		
Efficient Electrical Safety Comprehensive Tester	AN9640H(F)/AN9651H(F)/AN9651H-C(F)	P02
Intelligent Safety Analyzer	AN1640H(F)/AN1651H(F)/AN1651TH(F) Series 6	P05
Electrical Safety Comprehensive Tester	AN9640B(F)/AN9651F(F)	P08
Intelligent Safety Analyzer	AN1651H-M(F)/AN1640H-M(F)/AN1620H-M(F) Series NEW	P09
Multifunctional Electrical Safety Analyzer		
Comprehensive Electrical Safety Analyzer	AN9636HC(F)/AN9637HC(F)/AN9637HC8(F)	P11
Intelligent Safety Analyzer	AN1636H(F)/AN1638H(F)/AN1639H(F) Series	P13
Intelligent Safety Analyzer	AN1635H-10kV(F)/AN16310H(F)/AN16320A(F) Series	P15
Intelligent Safety Analyzer	AN1633A(F)/AN1633B(F) Series NEW	P16
Comprehensive Electrical Safety Analyzer	AN96XXB(F) Series	P17
New Energy Vehicle Safety Analyzer	AN166X(F) Series 🔥	P18
Single-function Electrical Safety Tester		
ACW, IR and GB Analyzer	AN96XXB(F) Series	P20
Grounding Resistance Analyzer	AN161XH(F) Series	P21
Contact Current Analyzer	AN1620H(F) Series	P22
Lithium Battery Safety Tester		
Pulse Lithium Battery Cell Short Circuit Tester	ANBTS7201(F) Series 🔥	P23
Large Capacity Pulse Lithium Battery Cell Short Circuit Tester	ANBTS7202(F) Series	P25
Insulation Resistance Tester	ANBTS7101(F) Series	P26
High-accuracy Battery Tester	ANBTS7501H(F)	P27
7½-digit DC Voltmeter	ANBTS7610(F) Series	P29
Battery Tester	ANBTS7500(F) Series NEW	P30
Battery Tester	ANBTS7520(F) Series	P31
Lithium Battery-Intelligent Safety Regulation Comprehensive Analyzer	ANBTS743xH(F) Series	P33
Lithium Battery Intelligent Safety Regulation Analyzer	ANBTS7436H-12kV(F) Series	P35
Electrical Safety Calibrator / Software		
Electrical Safety Comprehensive Calibrator	AN965-15(F)	P36
Withstand Voltage Calibrator	AN16015H(F)	P37
Safety Tester Remote Control Software	ESRS	P38
AC Power Supply		
AC Power Supply		
AC Power Supply	ANFH(F) Series	P40
AC Power Supply	ANFC(F) Series A	P43
AC Power Supply	ANFS(F) Series	P47
Programmable High Power AC Power Supply	ANFP(F) Series	P51
Programmalbe AC Test Power Supply		
Programmalbe AC Test Power Supply	AN61(F) Series 🔥	P55
Programmalbe Grid Simulator	ANGS(F) Series	P63
Regenerative AC Power Supply		
Regenerative Grid Simulator	ANRGS(F) Series NEW *	P67
Bidirectional Grid Simulator	ANBGS(F) Series 👌	P74
Bidirectional Grid Simulator (Pro)	ANBGS(F) Series (Pro)	P79
Constant Current AC Power Supply		

ANCC(F) Series

Programmable DC Power Supply		
DC Voltage-stabilized Power Supply	AN50(F) Low Power Series	P8
Programmable DC Power Supply	AN51(F) Series	P9
Wide Range Programmable DC Power Supply	AN53(F) Series 🔥	P9
Programmable Bidirectional DC Power Supply	ANEVH(F) Series	P1
High Power Bidirectional DC Power Supply	ANEVT(F) Series	P1
Dual-channel Bidirectional DC Power Supply	ANEVT DA(F) Series	P1
Battery Simulator DC Power Supply		
		D.4
Battery Simulator	ANEVS(F) Series 🔥	P1
Dual-channel Battery Simulator	ANEVS (F) Series  ANEVS DA(F) Series	P1
		100.00
Dual-channel Battery Simulator		Sincer
Dual-channel Battery Simulator Power Analyzer	ANEVS DA(F) Series	P1
Power Analyzer  Multi-channel High Precision Power Analyzer	ANPA4000(F) NEW	P1
Power Analyzer  Multi-channel High Precision Power Analyzer  Multi-channel High Precision Power Analyzer	ANPA4000(F) NEW AN87660(F) ♠	P1 P1 P1
Power Analyzer  Multi-channel High Precision Power Analyzer  Multi-channel High Precision Power Analyzer  Compact Multi-channel Power Analyzer	ANPA4000(F) NEW AN87660(F) AN87400(F)	P· P· P·

Partial Discharge (PD) Tester	AN8A10PD(F) Series NEW	P143
Motor Stator/Complete Machine Comprehensive Tester	AN8A10RT(F) Series 6	P145

#### **Electronic Load**

P83

Lower Power DC Electronic Load	AN235(F) Series	P148
High Power DC Electronic Load	AN236(F) Series 👌	P154
High Power Bidirectional DC Electronic Load	ANEL(F) Series 6	P164
AC/DC Electronic Load	AN29(F) Series	P167



Efficient Electrical Safety Comprehensive Tester AN9640H(F)/AN9651H(F)/ AN9651H-C(F)



Comprehensive Electrical Safety Analyzer AN9636HC(F)/AN9637HC(F) /AN9637HC8(F)



Comprehensive Electrical Safety Analyzer AN96XXB(F) Series



Contact Current analyzer AN1620H(F) Series



High-accuracy Battery ANBTS7501H(F)



Lithium Battery-Intelligent Safety Regulation Comprehensive Safety Regulation Analyzer Analyzer ANBTS743xH(F)



Lithium Battery Intelligent ANBTS7436H-12kV(F)



Intelligent Safety Analyzer AN1640H(F)/AN1651H(F)/ AN1651TH(F) Series

Intelligent Safety Analyzer

AN1636H(F)/AN1638H(F)/

AN1639H(F) Series

Pulse Lithium Battery Cell Short

Circuit Tester

ANBTS7201(F) Series

71/₂-digit DC

Voltmeter

ANBTS7610(F) Series



Electrical Safety Comprehensive Tester AN9640B(F)/AN9651F(F)



Intelligent Safety Analyzer AN1651H-M(F)/AN1640H-M(F)/ AN1620H-M(F) Series



Intelligent Safety Analyzer AN1635H-10kV(F)/AN16310H(F) AN16320A(F)



Intelligent Safety Analyzer AN1633A(F)/AN1633B(F) Series



New Energy Vehicle ACW, IR and GB Analyzer Safety Analyzer AN96XXB(F) Series AN166X(F) Series

Electrical Safety

Comprehensive

Calibrator AN965-15(F)



Grounding Resistance Analyzer AN161XH(F) Series



Large Capacity Pulse Lithium Battery Cell Short Circuit Tester ANBTS7202(F) Series



Insulation Resistance Tester ANBTS7101(F) Series



Battery ANBTS7500(F) Series



Battery Tester ANBTS7520(F) Series



Withstand Voltage Calibrator AN16015H(F)



Safety Tester Remote Control Software **ESRS** 

## Safety Analyzer \\ Ainuo

## **Efficient Electrical Safety Comprehensive Tester** AN9640H(F)/AN9651H(F)/AN9651H-C(F)







#### Product Overview

Ainuo Instrument Co., Ltd has been dedicated to the research and development of electrical safety analyzers for over 30 years, and has participated in drafting 16 national standards and industry calibration regulations for safety analyzers. The AN9640H(F) series Efficient Electrical Safety Comprehensive Tester features complete functions, high reliability, and high cost-effectiveness, meeting the comprehensive safety performance testing needs for various production lines such as household appliances.

## Features

- Seven-in-one: ACW/DCW/IR/GB/LC/PW/ST
- High precision: 1% accuracy for safety tester, 0.2% accuracy for power I High speed: GB and ACW/DCW/IR in parallel, fast switching, fast test Automation: RS232/LAN/USB/BARCODE/PLC/ALARM/REMOTE interface
- Informatization: Optional industrial PC and ESRS software for data storage and MES integration

## Applications /

- Safety of household and similar electrical appliances (GB4706.1/IEC60335-1)
- Audio and video, information technology, and communication technology equipment (GB4943.1/ IEC62368-1)
- Safety requirements for electrical equipment for measurement, control, and laboratory use (GB4793.1/IEC61010-1)
- Luminaires (GB/T7000.1/IEC60598-1)
- Electric vehicle conductive charging system (GB/T18487.1)

## Specifications

Model	AN9640H(F)	AN9651H(F)	AN9651H-C(F)	
AC withstand voltage (ACW)	5kVac/100mA (500VA output capacity, 200mA short-circuit current) (optional dynamic ACW)			
DC withstand voltage (DCW)	6kVdc/20mA			
Insulation resistance (IR)		3kVdc/50GΩ		
Ground resistance (GB)		40Aac/600mΩ		
Leakage current (LC)	20mA leakage current, MD-A net	twork (IEC60990 Fig. 4, up to	8 networks), RMS measurement;	
Power test (PW)	Li	300V/20A/6kW (optional 10kW)		
Starting test (ST)		300V/25A		
DUT power supply	External isolated power supply is required (optional built-in 500VA power supply)	External isolated power supply is required (optional built-in 500VA power supply)  Standard 6kVA variable frequency power supply cabinet		
Parallel test		Parallel GB, IR/ACW/DCW test		
Display operation	LCD display, nur	neric keypad	PC/ESRS measurement and control system	
Control interface	RS232/LAN (optional)/U	RS232/LAN (optional)/USB (store)/BARCODE/PLC/ALARM/REMOTE interface		
Standard accessories	Test box (3m), test clamp (3m), foot switch (2.5m), alarm lamp (0.8m), auxiliary power cable (1.9m)			
Optional accessories	Tester calibrator, barcode scanner, label printer			
Dimensions (W×H×D mm)	426×177×550 483×1350×600		83×1350×600	

- Over 30 years of industry experience, meeting the test needs of more segmented industries and complete all tests with just one-click and one wiring.
- Multiple start modes: button on front panel/remote control/barcode scanner/grounding clamp;



Air conditioner/refrigerator/washing machine AC/DC withstand voltage/insulation/grounding LC/PW/ST Continuous test and impact test







#### Parallel GB, IR/ACW/DCW test.

Exceeding & Trustworthy

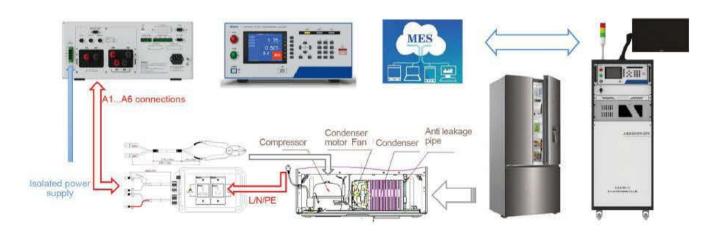
- AN9640H(F) Series Efficient Electrical Safety Comprehensive Tester.
- With parallel GB, IR/ACW/DCW test.
- Significantly reducing the testing time, double the production capacity of the production line.

Routine test 4s	GB 2s		IR 1s	ACW 1s
D11-11 O-	G	B 2s		-
Parallel test 2s	IR 1s	ACW 1s		

Safety Analyzer \\

#### Build information test platform with industrial PC and ESRS measurement and control software.

- This AN9651H-C(F) Series Efficient Electrical Safety Comprehensive Tester is designed with automation and information test
- (1) Barcode scanning/barcode recognition/calling programs/starting test;
- (2) Local store/filter/export;
- ¬ (3) Optional MES connection, active data upload, query upload, and breakpoint continuation; downloading test programs from the server; multiple database connection, including SQL Server, Oracle, MySQL and other database intermediate table connection, Modbus TCP connection, Web API connection, as well as local TXT text and Access database connection.



Safety Analyzer \\\

## Intelligent Safety Analyzer AN1640H(F)/AN1651H(F)/AN1651TH(F) Series







#### Product overview

Ainuo Instrument Co., Ltd has been dedicated to the research and development of electrical safety analyzers for over 30 years, and has participated in drafting 16 national standards and industry calibration regulations for safety analyzers. The AN1640H(F) Series Intelligent Safety Analyzer features complete functions, high precision, high speed, automation, informatization, and intelligent, meeting the comprehensive testing needs of fast cycle, multi variety, and informatization safety performance of single-phase and three-phase household appliances, charging piles, and similar electrical product production lines.

## Features

#### Eight-in-one

ACW/DCW/IR/GB/LC/PW/ST/Loop

#### High precision

■ 1% accuracy for safety tester, 0.2% accuracy for power

#### High speed

¬ GB and ACW/DCW/IR in parallel, LC and PW in parallel

#### Automation

RS232/LAN/USB/BARCODE/PLC/ALARM/REMOTE/HDMI interface

#### Intelligent

 Android platform, 10" touchscreen, scene recognition, intelligent matching, automatic test

## Applications

- Safety of household and similar electrical appliances (GB4706.1/IEC60335-1)
- Audio and video, information technology, and communication technology equipment (GB4943.1/ IEC62368-1)
- Safety requirements for electrical equipment for measurement, control, and laboratory use (GB4793.1/IEC61010-1)
- Luminaires (GB/T7000.1/IEC60598-1)
- Electric vehicle conductive charging system (GB/T18487.1)

## Specifications

Exceeding & Trustworthy

Model	AN1640H(F)	AN1651H(F)	AN1651TH(F)	
AC withstand voltage (ACW)	5kVac/100mA (50	0VA output capacity, 200mA short-circuit o	eurrent) (optional dynamic ACW)	
DC withstand voltage (DCW)		6kVdc/20mA		
Insulation resistance (IR)		3kVda/50GΩ		
Ground resistance (GB)		40Aac/600mΩ (optional 64A)		
Leakage current (LC)	20mA leakage current, MD-A/F network  (IEC60990 Fig. 4, Fig. 5, up to 8 networks);  RMS and peak measurement;		20mA leakage current, MD-A network (IEC60990 Fig. 4, up to 8 networks); RMS and peak measurement;	
Power test (PW)	Single-phase 300V/20A/6kW (Optional multiple power levels, low power, and 10kW)		Single-phase 300V/30A/6kW  Three-phase 300V/30A/20kW  (Optional 60kW, 90kW)	
Startup test (ST)	33	300V/25A		
Loop test (LN)	(Option	(Optional: Dual mode of low voltage DC and low voltage AC, 1~999Ω)		
DUT power supply	External isolated power supplyis required(Optional built-in 500VA power supply)	Standard 6kVA variable frequency power supply cabinet	Built-in 20kVA isolation transformer, optionalexternal variable frequency power supply;(Optional 60KW or 90kW, standard external isolation transformer chassis	
Parallel test	GB and ACW/DCW/IR is	GB and ACW/DCW/IR in parallel, LC and PW in parallel		
нмі	Android platform, 10" touchscreen, RS232/LAN/USB/BARCODE/PLC/ALARM/REMOTE/HDMI (optional) interface			
Standard accessories	Test box (3m), test clamp (3m), foot switch (2.5m), alarm lamp (0.8m), auxiliary power cable (1.9m)			
Optional accessories	Spot check device, barcode scanner, label printer, industrial PC, ESRS software; external HDMI monitor, wireless keyboard/mou			
Dimensions (W×H×D mm)	426×177×550	520×1365×630	520×1365×630	

- Over 30 years of industry experience, meeting the test needs of more segmented industries and complete test of all items with just one-click and one wiring.
- Multiple MDs: up to 8 MD options, covering various industry test standard requirements;
- Multiple start modes: button on front panel/remote control/barcode scanner/grounding clamp;



Air conditioner/refrigerator/washing machine
AC/DC withstand voltage/insulation/grounding
LC/PW/ST
Continuous test and impact test



Electric fan/rice cooker/energy-saving lamp AC/DC withstand voltage/insulation/grounding Multi level power automatic judgment

0.10W low-power measurement



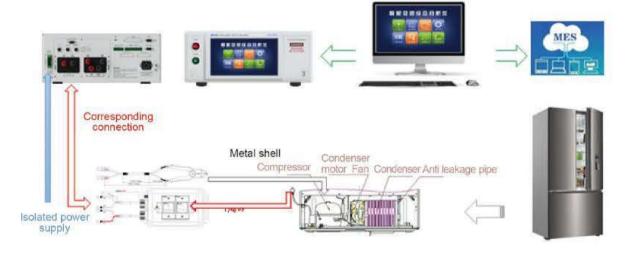
- GB and IR/ACW/DCW/ in parallel, LC and PW in parallel.
- AN1640H(F) series Intelligent Safety Analyzer, with parallel GB, IR, ACW/DCW test, as well as parallel test of dynamic LC and PW parameters, significantly reducing the testing time, double the production capacity of the production line.



Routine test 4s	G	B 2s	IR 1s	ACW 1s
Danillal tank Da	G	B 2s		
Parallel test 2s	IR 1s	ACW 1s		

Routine test 8s	LC 4s	PW 4s
Discollection of the	LC 4s	
Parallel test 4s	PW 4s	

- The AN1640H(F) Series Intelligent Safety Analyzer can build information test platform and no PC is required:
- ①Support barcode scanning/barcode recognition/calling programs/startup test;
- 2 Local store, data filter, report generation, data export, and other functions;
- ③Real-time data upload/download through LAN interface and Manufacturing Information System (MES);
- Support HDMI LCD display and wireless keyboard/mouse, clear display, convenient.



## **Electrical Safety Comprehensive Tester** AN9640B(F)/AN9651F(F)





#### **Product overview**

Ainuo Instrument Co., Ltd has been dedicated to the research and development of electrical safety analyzers for over 30 years, and has participated in drafting 16 national standards and industry calibration regulations for safety analyzers. The AN9640B(F) Series Electrical Safety Comprehensive Tester features complete functions, high reliability, and high cost-effectiveness, meeting the comprehensive safety performance testing needs for various production lines such as household appliances.

## Features

- Six-in-one: ACW/IR/GB/LC/PW/ST
- Compliance: 500VA ACW/DCW capacity, 32A GB/LC test
- Convenience: one-click to start and complete all tests after one time wiring
- Rich interfaces: RS232/ALARM/REMOTE/PLC etc
- Informatization: industrial PC and ESRS software

#### Applications

- Safety of household and similar electrical appliances (GB4706.1/IEC60335-1)
- Audio and video, information technology, and communication technology equipment (GB4943.1/ IEC62368-1)
- Safety requirements for electrical equipment for measurement, control, and laboratory use (GB4793.1/IEC61010-1)
- Luminaires (GB/T7000.1/IEC60598-1)
- I Electric vehicle conductive charging system (GB/T18487.1)

Model	AN9640B(F) AN9651F(F)		
AC withstand voltage (ACW)	5kVac/100mA		
Insulation Resistance (IR)	1kVdc/2000MΩ		
Ground resistance (GB)	32Aac/	600mΩ	
Leakage current (LC)	300V/20A, MD-A (IEC60990 Fig. 4), RMS measurement		
Power test (PW)	300V/20A/6kW		
Starting test (ST)	300V/25A		
Operation interface	5.5" LCD display, RS232\PLC interface		
Load power supply	External isolated power supply is required	Built-in 6kW variable frequency power supply	
Dimensions (W×H×D mm)	426×178×600	483×1355×600	

## Intelligent Safety Analyzer AN1651H-M(F)/AN1640H-M(F)/AN1620H-M(F) Series





#### Product overview

Ainuo Instrument Co., Ltd has been dedicated to the research and development of electrical safety analyzers for over 30 years, and has participated in drafting 16 national standards and industry calibration regulations for safety analyzers. The AN1640H-M series Intelligent Safety Analyzer features complete functions, legal compliance, easy operation, and informatization, suitable for test of medical electrical equipment safety standards.

#### Features

- Six-in-one: ACW/IR/GB/LC/PW/ST
- Legal: Meet the safety test requirements of GB9706/IEC60601 Medical electrical equipment
- Convenience: automatic programming, multi network and multi-channel switching, automatic test of one-time wiring
- Informatization: PC/SRS software, local data management, MES database connection

Specifications

## **Applications**

- Medical electrical equipment (GB9706.1-2020/IEC60601-1:2012)
- Safety requirements for electrical equipment for measurement, control, and laboratory use (GB4793.1/IEC61010-1)

None

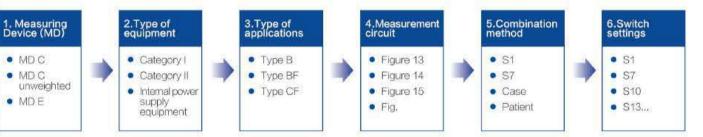
None

None

#### AN1640H-M(F) AN1620H-M(F) Model AN1651H-M(F) AC withstand voltage (ACW) 5kVac/100mA (500VA output capacity, 200mA short-circuit current) (optional dynamic ACW/DCW) DC withstand voltage (DCW) 6kVdc/20mA 3kVdc/50GΩ Insulation Resistance (IR) 40Acci600mO (Optional 64A)

Ground resistance (GD)	#UAAG/600IIII (O	puonai 64A) Ivone
Leakage current (LC)	20mA Leakage current, MD-C/unweighted C/E network (up to 8 networks); AC/DC RMS and peak measurement	
Multi-channel switching	Optional switching unit: 8 for ACW/DCW, 8 for LC, 1 for GB) (Optional external switching unit: 8 for ACW/DCW, 8 for LC, 1 for GB)	
DUT power supply Auxiliary voltage	Standard 6kVA variable frequency power supply and auxiliary power supply	External isolation power supply is required (optional built-in 500VA variablefrequency power supply)
HMI	Android platform, 10" touchscreen, RS232/LAN/USB/BARCODE/PLC/ALARM/REMOTE/HDMI (optional) interfac	
Standard accessories	Test box (3m), test clamp (3m), foot switch (2.5m), alarm lamp (0.8m), auxiliary power cable (1.9m)	
Optional accessories	(PC, ESRS software, spot check device, barcode scanner, label printer, HDMI monitor, wireless keyboard/mouse)	
Dimensions (W×H×D mm)	520×1365×630	426×177×550

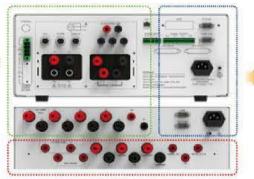
- I Specially designed for standard test of safety of medical electrical equipment, simple, one-click completion of all tests after one-time wiring.
- Multiple MDs: Standard medical electrical equipment (GB9706.1-2020/IEC60601-1:2012) MD network, up to 8 leakage MDs options, meeting various industry test standard requirements;
- Multi-channel switching: Standard 8-channel ACW/DCW/IR switching. Set HV/Off for the network power supply and patient connection. Set On/Off for PE, case, patient connection, signal I/O, display screen, keyboard, etc. Standard 1-channel GB
- Leakage contact current; meets the requirements for test of ground leakage current (Fig. 13), contact current (Fig. 14), patient leakage current (Fig. 15, 16, 17, 18), and patient auxiliary current (Fig. 19).
- Two shortcuts: The setting for LC test is complex. This analyzer provides manual/auto settings modes, with unique and quick operation to simplify the complexity and reduce the difficulty of operation for users.
- 6-step easy operation: 10" touchscreen, manual/auto LC test, illustrated with text.



Combination of the safety analyzer and the multi-channel switching unit, strong scalability, one-click completion of all tests after one-time wiring.

 The test terminals of the safety analyzer are fixedly connected to the input terminals of the switching unit, without manual connection by operator.

Exceeding & Trustworthy



- The safety analyzer and the switching unit are controlled via industrial PC to build the test system.
- The safety analyzer can also be directly connected to the communication control switching unit to build the minimum test
- . Switching unit outputs multi-channel ACW/DCW, IR, GB, and LC test terminals. The operator just connects the wires one time, and the test system automatically switches the test channel according to the test items, completing all tests with one-click,

## Comprehensive Electrical Safety Analyzer AN9636HC(F)/AN9637HC(F)/AN9637HC8(F)



#### **Product Overview**

Ainuo Instrument Co., Ltd has been dedicated to the research and development of electrical safety analyzers for over 30 years, and has participated in drafting 16 national standards and industry calibration regulations for safety analyzers.

The AN963XHC(F) Series Comprehensive Electrical Safety Analyzer has the characteristics of complete functions, high performance, automation, and informatization, providing comprehensive safety test solutions for various electrical products.

## Features

- Five-in-one: ACW/DCW/IR/ACGB/DCGB
- High performance: 1% basic accuracy for safety tester, ARC test, GUARD/RETURN mode
- Automation: RS232/LAN/USB/BARCODE/IO/ALARM interfaces
- Informatization: barcode scanning and automatic recognition, optional ESRS measurement and control software

## Applications

- Audio and video, information technology, and communication technology equipment (GB4943.1/ IEC62368-1)
- Safety requirements for electrical equipment for measurement, control, and laboratory use (GB4793.1/IEC61010-1)
- Safety Requirements of traction battery used by electric vehicles (GB38031-2020)
- Safety requirements of secondary lithium cells and batteries used in electrical energy storage systems (GB44240-2024)
- Technical requirements for power conversion system of electrochemical energy storage system (GBT34120-2023)
- Electric vehicle conductive charging system (GB/T18487.1)
- Terrestrial photovoltaic (PV) modules Design qualification and type approval (IEC61215-1-2021)
- Technical specifications of junction box for terrestrial solar-photovoltaic modules (GB/T 37410-2019)
- Technical requirements for photovoltaic gird-connected inverter (GB/T37408-2019)
- General principles low voltage switchgear and controlgear Part 1 (GBT14048.1/IEC60947-1)

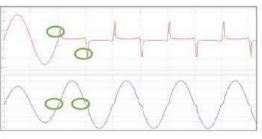
## Specifications

Model Function	AN9636HC(F) ACW/DCW/IR	AN9637HC(F) ACW/DCW/IR/GB	AN9637HC8(F) ACW/DCW/IR/GB	
AC withstand voltage (ACW)		5kVac/100mA (optional 200mA)		
DC withstand voltage (DCW)		6kVdc/20mA		
Insulation Resistance (IR)		6kVdc/50GΩ		
AC ground bond resistance (GB)	None	None 40Aac/600mΩ		
DC ground bond resistance (DCGB)		(Optional 40A, 60A, 100A card)		
Multiple cards	Optional multi-channel ACW/DCW scanning card, multi-channel GB scanning card, and DC low resistance card;  (When more than one card is inserted, additional 1U chassis height shall be added for each additional card, and 2U height for 100A DCGB card)		Standard 5W3G card	
Operation interface	Color LCD, r	Color LCD, numeric keypad, RS232\PLC\USB\LAN (optional) interface;		
Informatization	USB storage, barcode recognition and automatic program matching, optional ESRS measurement and control software which can be integrated with MES system			
Dimensions (W×H×D mm)	426×132×520			

#### Flashover and arc

In relevant electrical safety regulations and standards, the general requirement for determining electrical strength test is that under the specified test voltage and test time conditions, the insulator should not experience breakdown or flashover. The destructive discharge along the surface of an insulator is called flashover, while the destructive discharge along the interior of the insulator is called breakdown. Arc is gas discharge phenomenon, where instantaneous spark is generated when current passes through certain insulating media (such as air).

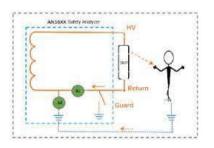
The series analyzer has arc detection function (ARC), arc levels of 0~9 can be set in ACW and DCW, to detect flashover or arc discharge during ACW/DCW test process.



Current and voltage waves of pure resistive arc discharge

#### Protective design for operator safety

- When the Interlock control is enabled, this signal can be used as a detection signal for personnel entering the safety test area or for open grid gate of the test bench. Once the analyzer detects circuit break in this signal, the output will be stopped and the test cannot be started.
- DUT grounding. This series analyzer has two modes: DUT case grounding (Guard) or floating grounding (Return). When selecting Guard mode, the Return terminal of the analyzer will maintain safe conductive state with PE to prevent operators from accidentally touching the DUT housing and getting electric shock during ACW/DCW test process. In this mode, stray leakage current through the ground will pass through ammeter A1, causing higher leakage current and lower insulation resistance.
- Leakage protection GFI. When the leakage current of high-voltage output HV leaks to the safe PE terminal through the operator or DUT housing, the leakage current will be detected by ammeter A2. When it exceeds the limit, the analyzer will stop the high-voltage output and trigger GFI alarm.



#### Multiple optional cards



DC low resistance card (0.1-20k Ω)



DCGB resistance card (40/60A/100A)



5-channel high-voltage 3-channel GB scanning card



8-channel high-voltage scanning card



8-channel GB scanning card

# Intelligent Safety Analyzer AN1636H(F)\AN1638H(F)\AN1639H(F) Series



Ainuo // Safety Analyzer



#### **Product Overview**

Ainuo Instrument Co., Ltd has been dedicated to the research and development of electrical safety analyzers for over 30 years, and has participated in drafting 16 national standards and industry calibration regulations for safety analyzers.

This AN163XH(F) Series Intelligent Safety Analyzer features complete functions, high performance, automation, and informatization, providing comprehensive safety test solutions for various electrical products.

#### Features

- Five-in-one: ACW/DCW/IR/ACGB/DCGB
- High performance: 1% basic accuracy for safety tester, parallel ACW/DCW/IR and GB test
- Automation: RS232/LAN/USB/BAR-CODE/IO/ALARM/HDMI interfaces
- Informatization: Local store, data filter/export, MES database integration
- Intelligent: Android platform, 7" touchscreen, barcode recognition, intelligent matching, etc

## Applications

- Audio and video, information technology, and communication technology equipment (GB4943.1/ IEC62368-1)
- Safety requirements for electrical equipment for measurement, control, and laboratory use (GB4793.1/IEC61010-1)
- Safety Requirements of traction battery used by electric vehicles (GB38031-2020)
- Safety requirements of secondary lithium cells and batteries used in electrical energy storage systems (GB44240-2024)
- Technical requirements for power conversion system of electrochemical energy storage system (GBT34120-2023)
- Electric vehicle conductive charging system (GB/T18487.1)
- Terrestrial photovoltaic (PV) modules Design qualification and type approval (IEC61215-1-2021)
- Technical specifications of junction box for terrestrial solar-photovoltaic modules (GB/T 37410-2019)
- Technical requirements for photovoltaic gird-connected inverter (GB/T37408-2019)
- General principles low voltage switchgear and controlgear Part 1 (GBT14048.1/IEC60947-1)

## Specifications

Model Function	AN1636H(F) ACW/DCW/IR	AN1638H(F) ACW/DCW/IR/GB	AN1639H(F) ACW/DCW/IR/GB/DCGB		
AC withstand voltage (ACW)	5kVac/100mA (optional 200mA)				
DC withstand voltage (DCW)		6kVdc/20	mA		
Insulation Resistance (IR)		6kVdc/100	ΟΘΩ		
AC ground bond resistance (GB)	None	64Aac/600mΩ			
DC ground bond resistance (DCGB)	(Optional 40A, 60A)	None 40A DCGB card (optional 60A, 100A)			
Multiple cards	Optional multi-channel ACW/DCW scanning card, multi-channel GB scanning card, and DC low resistance card; (When more than one card is inserted, additional 1U chassis height shall be added for each additional card, and 2U height for 100A DCGB card.)				
Parallel	(Optional: Voltage division	n ratio, parallel ACW/DCW test be	tween input-output-case; parallel GB and ACW/DCW test)		
Operation interface	Ar	Android system, 7° touch screen, RS232/LAN/WIF/PLC/USB interface			
Informatization	Local store, data filter and export; barcode recognition and automatic program matching, MES system integration; optional HDMI interface, supporting external LCD display, keyboard/mouse;				
Dimensions (W×H×D mm)	426×132×520				

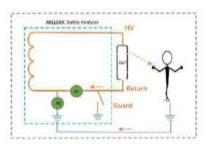
#### Parallel GB and ACW/DCW/IR test

This series Intelligent Safety Analyzer is designed with parallel GB, IR, ACW/DCW test, significantly shortening the testing time, double the production capacity of the production line.

Routine test for 4s	GB 2s		IR 1s	ACW 1s
Described to at few De	G	B 2s		Ÿ
Parallel test for 2s	IR 1s	ACW 1s		

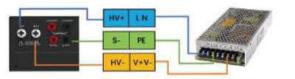
#### Protective design for operator safety

- When the Interlock control is enabled, this signal can be used as a detection signal for personnel entering the safety test area or for open grid gate of the test bench. Once the analyzer detects circuit break in this signal, the output will be stopped and the test cannot be started.
- DUT grounding. This series analyzer has two modes: DUT case grounding (Guard) or floating grounding (Return). When selecting Guard mode, the Return terminal of the analyzer will maintain safe conductive state with PE to prevent operators from accidentally touching the DUT housing and getting electric shock during ACW/DCW test process. In this mode, stray leakage current through the ground will pass through ammeter A1, causing higher leakage current and lower insulation resistance.
- Leakage protection GFI. When the leakage current of high-voltage output HV leaks to the safe PE terminal through the operator or DUT housing, the leakage current will be detected by ammeter A2. When it exceeds the limit, the analyzer will stop the high-voltage output and trigger GFI alarm.



#### ACW/DCW voltage division ratio setting, parallel test of multiple channels

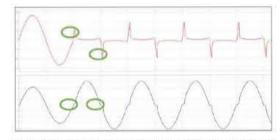
The series tester can be equipped with optional built-in positive and negative high voltage dual output modules, setting the output voltage ratio of positive and negative voltage, to achieve three parallel tests for power supplies: input terminals (LN) - PE, output terminals (V+V-) - PE, and input terminals (LN) - output terminals (V+V -).



#### I Flashover and arc

In relevant electrical safety regulations and standards, the general requirement for determining electrical strength test is that under the specified test voltage and test time conditions, the insulator should not experience breakdown or flashover. The destructive discharge along the surface of an insulator is called flashover, while the destructive discharge along the interior of the insulator is called breakdown. Arc is gas discharge phenomenon, where instantaneous spark is generated when current passes through certain insulating media (such as air).

The series analyzer has arc detection function (ARC), arc levels of 0~9 can be set in ACW and DCW, to detect flashover or arc discharge during ACW/DCW test process.



Current and voltage waves of pure resistive arc discharge

#### Multiple optional cards



DC low resistance card (0.1-20k Ω)



DCGB resistance card (40/60A/100A)



5-channel high-voltage 3-channel GB scanning card



8-channel high-voltage scanning card



8-channel GB scanning card

D4

Intelligent Safety Analyzer AN1635H-10kV(F)/AN16310H(F)/AN16320A(F) Series





#### **Product Overview**

Ainuo Instrument Co., Ltd has been dedicated to the research and development of electrical safety analyzers for over 30 years, and has participated in drafting 16 national standards and industry calibration regulations for safety analyzers.

The AN1635H-10KV(F) Series Intelligent Safety Analyzer has the characteristics of complete functions, high voltage automation, and informatization, providing comprehensive safety test solutions for various electrical products.

## Features

- I Multi-function: ACW/DCW/IR/BDV test
- High voltage: maximum output 20KV, maximum capacity 5kVA, multi-channel scanning
- Automation: RS232/LAN/USB/BARCODE/IO/ALARM/HD-MI interfaces
- Informatization: Local store, data filter/export, MES database integration
- Intelligent: Android platform, 7" touchscreen, barcode recognition, intelligent matching, etc

#### Applications /

- Safety requirements for electrical equipment for measurement, control, and laboratory use (GB4793.1/IEC61010-1)
- Safety Requirements of traction battery used by electric vehicles (GB38031-2020)
- Safety requirements of secondary lithium cells and batteries used in electrical energy storage systems (GB44240-2024)
- Terrestrial photovoltaic (PV) modules Design qualification and type approval (IEC61215-1-2021)
- General principles low voltage switchgear and controlgear Part 1 (GBT14048.1/IEC60947-1)
- Insulating materials. Test methods for electric strength. Part 1:Test at power frequencies (GBT1408.1-2016)
- Insulating materials. Test methods for electric strength. Part 2: Additional requirements for tests using direct voltage (GBT1408.2-2016)
- Test and Certification Specification for Automotive Grade Semiconductor Power Devices (T/CASA 011.3-2021)
- Semiconductor Devices Part 5-5: Optoelectronic Devices Optocouplers (GB-T 15651.5-2024 IEC60747-5-5-2020)

#### Specifications

Model Function	AN1635H-10KV(F) ACW/DCW/IR(CE marking)	AN16310H(F) ACW/DCW/IR	AN16320A(F) ACW	
AC withstand voltage (ACW)	10kVac/20mA	10kVac/40mA(optional 100mA 400mA)	20kVac/20mA	
DC withstand voltage (DCW)	10kVdc/20mA	10kVdc/20m(optional 100mA)	7	
Insulation Resistance (IR)	10kV	/dc/50GΩ	ÿ	
DC ground bond resistance (DCGB)	Optional 40A/60	0A/100A DCGB card	7	
Multiple cards	Optional 6-channel m	ulti-channel scanning card	7	
Operation interface	Android syste	em, 7" touch screen, RS232\LAN\WIFI\PLC\USB in	nterface	
Informatization		Local store, data filter and export; barcode recognition and automatic program mate MES system integration; optional HDMI interface, supporting external LCD display, keybo		
Dimensions (W×H×D mm)	426×132×520	426×177×520 (The high current optional chassis is customized in size)	426×177×550	

## **Intelligent Safety Analyzer** AN1633A(F)/AN1633B(F) Series







AN1633A(F) 5-module 10-channel parallel

AN1633B(F) 5-module parallel\* 3-channel scanning

#### **Product Overview**

Ainuo Instrument Co., Ltd has been dedicated to the research and development of electrical safety analyzers for over 30 years, and has participated in drafting 16 national standards and industry calibration regulations for safety analyzers.

The AN1633A(F) Series Intelligent Safety Analyzer has the characteristics of modular, 10-channel parallel, synchronous/asynchronous control, providing comprehensive and fast safety test solutions for various electronic components such as switching power supplies, inverters, transformers, relays, etc.

#### Features

- Three-in-one: ACW/DCW/IR test
- Multi-module: built-in 1~5 independent modules, plug-and-play
- Multi-channel: 5 modules with 10 independent channels, 5 modules \* 3 channels for scanning
- Multiple operating conditions: synchronous/asynchronous, independent parameter settings, common loop test
- Multi-window: 10" touchscreen, independent windows for displaying results of each channel

## Applications

- Audio/video, information and communication technology equipment (GB4943.1/IEC62368-1)
- Multi-point ACW/DCW and common ground test scenario for a product: It can meet the needs of power supplies, inverters, transformers, new energy vehicle PDUs, and other one-time multi-point ACW/DCW and common case (PE) test applications.
- Test multiple products simultaneously: safety test of electronic components such as chargers, lithium batteries, relays, contactors, connectors, etc., parallel test of up to 10 products one time.

Model Function	AN1633A-10(F) The suffix -4\6\8\10 represents the number of channels	AN1633B-5(F) The suffix -2\3\4\5 represents the number of modules	
AC withstand voltage (ACW)	5kV/10mA	5kV/20mA	
DC withstand voltage (DCW)	6kV/8mA	6kV/10mA	
Insulation Resistance (IR)	2.5kV/100GΩ	2.5kV/100GΩ	
Module selection	2~5 modules, with 2 independent test units per module	2~5 modules, each module with 3-channel (H/L/X) for scanning	
Number of channels	4/6/8/10 independent channels per analyzer	6/9/12/15 scanning channels per analyzer	
Start mode	Synchronous/asynchronous test between channels	Synchronous/asynchronous test between modules	
Operation interface	10" touch screen, RS232/PLC/LAN	interface, 8G memory, MES connection	
Dimensions (W×H×D mm)	426×177×640		



## Comprehensive Electrical Safety Analyzer AN96XXB(F) Series



\* Four-in-one: ACW/DCW/IR/GB

\* High precision: 1% basic accuracy

for safety tester

\* High efficiency: fast test, conve-

### **Product Overview**

Ainuo AN96XXB(F) Series electrical safety tester has a multi-function combination including AC withstand voltage, DC withstand voltage, insulation resistance, and AC grounding, as well as auxiliary functions such as arc detection, open and short circuit detection, and low-pass filtering, and has a variety of interfaces including RS232\RS485\ PLC\LAN (optional) \USB (optional). This series of product features compact, light, rich interfaces, and suitable for desktop testing, system integration and other operating conditions.

#### Features

- Functions
- ACW/DCW/IR/GB
- Wide range
- ¬ ACW 5kV, DCW 6kV, IR 3kV/50GΩ
- Rich interfaces
- RS232/IO/INTERLOCK/ALARM/USB/LAN
- Auxiliary functions
- slow rise/hold/slow down, comprehension, ARC, OSC, WAIT

## Applications

- Safety of household and similar electrical appliances (GB4706.1/IEC60335-1)
- Audio/video, information and communication technology equipment (GB4943.1/IEC62368-1)
- Safety requirements for electrical equipment for measurement, control, and laboratory use (GB4793.1/IEC61010-1)
- Safety test for switching power supply, transformer, low-voltage electrical appliances, electronic components and other electronic products

## Specifications

Model Function	AN9637B(F) ACW/DCW/IR/GB	AN9635B(F) ACW/DCW/IR	AN9633B(F) ACW/DCW/IR
AC withstand voltage(ACW)	5kV/4	0mA	5kV/20mA
DC withstand voltage(DCW)	6kV/10mA		
Insulation resistance (IR)	3kV/50GΩ		
Ground bond resistance (GB)	40Aac/600mΩ None		
Operation interface	5-inch color LCD touch screen, standard RS232\IO interface, optional RS485\USB\LAN\ALARM interface		
Dimensions (W×H×D mm)	250×118×440		213×88×360

## **New Energy Vehicle Safety Analyzer** AN166X(F) Series







#### \* Regulatory compliance:

Safety Analyzer \\\

GB18384-2020 Electric Vehicles Safety

Requirements and GB38032-2020 Electric Buses Safety Requirements

- \* Four in one: whole vehicle insulation, insulation resistance. insulation monitoring, potential equalization, and multi-channel testing.
- \* Systematic: professional test accessories, on-site devices, i nformatization system, and MES database connection

#### **Product Overview**

The Ainuo AN1662H(F) New Energy Vehicle Safety Analyzer and the AN1662SD(F) New Energy Vehicle Safety Test System comply with GB18384-2020 Electric Vehicles Safety Requirements and GB38032-2020 Electric Buses Safety Requirements. AN1660B(F) New Energy Vehicle Operational Safety Analyzer is designed to meet the requirements of the operational safety performance inspection regulations for new energy vehicles.

The AN1662H(F) Analyzer features whole vehicle insulation, insulation resistance, insulation monitoring, and potential equalization test functions. It can be equipped with additional features such as AC withstand voltage, DC withstand voltage, and DC low resistance. It supports

multi-channel withstand voltage and multi-channel potential equalization scanning tests. By using test accessories such as AC charging gun, DC charging gun, platform test clip, high-voltage component test clip, etc., it can complete the test connections in one go and automatically or manually perform each step of the safety regulation test.

The AN1662SD(F) Test System integrates the test functions of AN1662H(F). Through industrial computer/ESRS measurement and control software, on-site device and remote control test, it realizes the automated, informatized, and intelligent test process for new energy vehicle safety regulation.

afety Analyzer

#### Exceeding & Trustworthy

## Exceeding & Trustworthy Safety Analyzer \\\

## Ainuo

## Features /

#### System digitistics

- Four-in-one safety regulation test for electric vehicles, with excellent system scalability
- One master unit integrating multiple functions for fast testing speed and high accuracy for safety analyzer
- Multi-channel scanning and one-time wiring, capable of completing all safety tests items

#### | Hardware features

- Supports wireless scanning, automatic vehicle model recognition, and automatic retrieval of test programs
- Supports CAN communication and automatically presets vehicle status based on the test item

Customized dedicated test on-site devices, remote control panels, and testing accessories

#### Software features

- Workflow setting for electric vehicle safety test items, supporting a mix of automatic and manual tests
- Local storage of test information with no limit on the number of saved records during the product's lifecycle.
- Multiple MES database connections reserved for test condition download and test data upload.
- Software measurement and control system supports data query, filtering, and export, as well as user permission management.

## Specifications

	Model	AN1662H(F)	AN1660B(F)
	Measurement range	0.1ΜΩ999.9ΜΩ	
whole vehicle insulation	Measured voltage	200Vdc1000Vdc	None
	Test method	Double voltmeter method; battery DC+/DC- port test and charging port test (optional)	None
Insulation	Resistance switching	5-gear automatic resistance switching detection	None
monitoring	Judgment method	Manual judgment and CAN communication (optional)	None
Insulation	Output voltage	100Vdc—1,000Vdc	
.7.0,4.4.4.4.7	Measurement range	0.1ΜΩ-	—50GΩ
resistance	Test channel	Channel 8	Channel 1
	Output current	DC constant current source 1Adc (>200mA) and optional DC constant current source 1-40Adc;	DC constant current source 2-5Ado
Potential	Measurement range	0.1mΩ-600mΩ	0.1mΩ600mΩ
equalization	Test channel	Channel 10	Channel 1
	Test method	Four-terminal method	Four-terminal method
Optional functions		AC withstand voltage, DC withstand voltage, and DC low resistance	AC withstand voltage and DC withstand voltage

## AN1662SD(F) System Allocation

S/N	Component name	Specification	Remarks
1.1	New energy vehicle safety analyzer	AN1662H(F)	Ainuo
1.2	Safety regulation measurement and control software	ESRS	Ainuo
1.3	Industrial computer	Intel-G1620/4G/120G	Advantech
1.4	Display	19-inch	DELL
1.5	UPS	1kW	Shante
1.6	Alarm lamp	Test/qualified/unqualified	Customized
1.7	Printer	Self-adhesive label printing	Zebra
1.8	Wireless scanning gun	1D/2D recognition	Zebra
1.9	Cabinet	White	Customized
1.10	Test accessories	Optional	Customized
1.11	On-site devices	Optional	Customized
1.12	Remote control	Optional	Customized
1.13	Can card	Optional	Customized

## ACW, IR and GB Analyzer AN96XXB(F) Series







#### **Product Overview**

The Ainuo AN96XXB(F) Series is designed with ACW, IR, and GB test, as well as auxiliary functions such as arc detection, short circuit detection, low-pass filter, and waiting-for test (for AN9632M(F)), with RS232\RS485\PLC\LAN (optional)\USB (optional) interfaces.

This series of product features compact, light, rich interfaces, and suitable for desktop testing, system integration and other operating conditions.

## Features

#### Main functions

ACW, IR, GB, ARC

#### Wide range

\* ACW 5kV/200mA/100mA/20mA, IR 3kV/50GΩ, GB 32A/600mΩ

#### Rich interfaces

RS232/IO/INTERLOCK/ALARM/USB/LAN

#### Auxiliary functions

slow rise/hold/slow down, comprehension, ARC,OSC,WAIT

## Applications

- Safety of household and similar electrical appliances (GB4706.1/IEC60335-1)
- Audio and video, information technology, and communication technology equipment (GB4943.1/ IEC62368-1)
- Safety requirements for electrical equipment for measurement, control, and laboratory use (GB4793.1/IEC61010-1)
- General principles low voltage switchgear and controlgear Part 1 (GBT14048.1/1EC60947-1)
- Safety test for switching power supply, transformer, low-voltage electrical appliances, electronic components and other electronic products

Model	AN9632M(F)	AN9602B(F)	AN9632B(F)	AN9605B(F)	AN9671B(F)	AN9613B(F)
Function	ACW/IR	ACW	ACW/IR	ACW	IR	GB
AC withstand voltage(ACW)	5kV/200mA	5kV/100mA	5kV	/20mA	None	None
Insulation resistance(IR)	1kVdc/2000MΩ	None	3kV/50GΩ	None	3kV/50GΩ	None
AC ground bond resistance(GB)		None			32A/600mΩ	
Operation interface	VFD character display RS232\PLC interface	5" color LCD touch screen, standard RS232/IO interface Optional RS485\USB\LAN\ALARM interface				
Dimensions (W×H×D mm)	400×143×505	250×118×440 213×88×360				

## Grounding Resistance Analyzer AN161XH(F) Series



\* ACGB: 64A/600mΩ

★ DCGB: 100A/600mΩ,60A/600mΩ

★ Multi-channel: 8-channel card, supporting channel expansion

\* Informatization: Android platform, data store, barcode recognition

## Features

#### Safe and reliable

- Main drafting unit of state standards and verification regulations for safety testing products
- Nearly 30 years of safety testing expertise and follow-up of
- ▼ Complete electromagnetic, environmental, load, operating conditions, fatigue test verification

#### Rich functions

■ Two modes: resistance/voltage mode, meeting industry standards

- Multi-channel card: Optional 8-channel GB switching card, multi-channel expansion
- Auto start: circuit detection; after the GB circuit are built, the test will be automatically started

#### Intelligent and automatic

- Smart safety tester: Android system, 7" touch screen, self-learning smart keyboard
- Barcode recognition: barcode scanning, program matching, automatic startup, package
- Data management: local storage, network transmission, direct connection with MES system
- Rich interfaces: RS232 (optional RS485), PLC, USB, LAN interfaces

## Specifications

Model	AN1610D(F)	AN1616D(F)	AN1616HD(F)	AN1616H(F)
Production of the	Colored Colore	200000000000000000000000000000000000000	CONTRACTOR CONTRACTOR	
DCGB	100Adc/8V	60Adc/8V	60Adc/8V	None
ACGB	No	one	64Aac/10V	64Aac /10V
Grounding resistance	MAX 600mΩ			
Operating Interface	Android platform, 7" touchscreen, RS232\LAN\WIFI\PLC\USB interface			
Output terminal	Rear panel output			
Dimensions (W×H×D mm)	426×177×520 426×132×520			

## **Contact Current Analyzer** AN1620H(F) Series



## ★ Multiple body area networks (BANs): ※up to 8 MD options, applicable to multiple industry safety standards

\* Multi measurements: RMS, peak, AC component, DC component

Safety Analyzer \\

- ★Wide frequency measurement: × DC, 10Hz
- ~ 1MHz contact current frequency measurement
- ★ Multiple power supply states: ※Multiple power supply states, standard one-click settings for medical equipment.

## Features

#### Safe and reliable

- Main drafting unit of state standards and verification regulations for safety testing products
- Nearly 30 years of safety testing expertise and follow-up of industry needs
- Complete electromagnetic, environmental, load, operating conditions, fatigue test verification

#### Compliance with regulations

- Multi network: up to 8 MD, multi state switching, multi industry standards
- Multi parameters: RMS, peak, AC component, DC compo-
- Wide band: DC, 10Hz ~ 1MHz contact current measurement

#### Intelligent test

- Intelligent platform: Android system, 10" touch screen
- ▼ Data management: barcode recognition, local store, MES
- Rich interfaces: RS232, PLC, USB, CAN, WIFI

Model	AN1620TH(F)	AN1620H(F)	AN1620H-M(F)	
DUT specifications	Single-phase/three-phase 300V/20A	Single-Phase 300V/20A	Single-Phase 300V/20A	
Test power supply	Optional external isolated power supply	Optional built-in 500W power supply or external power supply	Auxiliary power supply and DUT power supply (optional external power supply)	
Test network	Standard three networks: A/F	F/H, up to 8 optional networks	Standard C/C unweighted/E medical equipment dedicated network	
Current range	020mArms	s, 30mApeak	0-20mArms, 0-20mAac/Adc; 30mApeak; Patient, case, ground leakage current; Built-in S switch state setting; One-click automatic settings following GB9706.1/IEC60601-1 standard.	
Impedance and frequency response		DC, 10Hz-1MHz		
Power measurement	Optional: 30	00V/20A power measurement per phase	e, with accuracy of 0.5%	
Operation interface	Android	system, 10" touchscreen, RS232\LAN	\PLC\USB interface	
Dimensions (W×H×D mm)		426×177×550		

Safety Analyzer \\ Ainuo

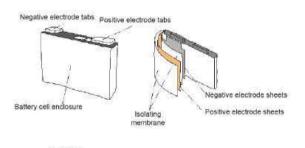
## Pulse Lithium Battery Cell Short Circuit Tester ANBTS7201(F) Series

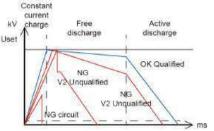


#### **Product Overview**

Based on the first generation Pulse Battery Cell Short Circuit Tester in 2012, the second generation ANBTS7201(F) Series Pulse Lithium Battery Cell Short Circuit Tester from Ainuo Instrument Co., Ltd., by adopting a new generation test method of constant current charge, free discharge, and constant current discharge to monitor the slight voltage drop in real time and throughout the process, can effectively detect insulation short circuits, micro short circuits, low insulation resistance, etc. in unqualified and suspicious Lithium battery cells caused by damage, folds, perforation, foreign objects, burrs, etc., on the isolating membrane.

ANBTS7201(F) Series are widely applied in such processes as stacking, winding, cell assembly and before injection, applicable for insulation performance testing between the positive and negative electrode sheets of lithium battery cells, as well as between the positive and negative electrode tabs and the battery cell shell before injection under 0.1uF-100uF static capacity.





#### Features

■ Five-in-one: pulse short circuit test, insulation resistance test,BDV test, capacitance test, weak conductive resistance test

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- Fast: Maximum 50mA constant adjustable charge mode, maximum 30mA constant adjustable discharge mode, multiple channel test
- Wide range: 25V-2000V voltage, 2kΩ-100GΩ insulation resistance test, excellent repeatability in lithium battery cell insulation resistance test
- Data storage: local test data and waveform storage, supporting to export to USB
- Easy to use: Small in size, with rich interfaces and simple operation, suitable for testing on lithium battery cell automated production lines





Figure 1\2 Test process of qualified and unqualified 5uF batery cell under 100V voltage (voltage rise time 54ms)

#### Specifications

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	Model	ANBTS7201-R(F)	ANBTS7201-3R(F)	
	Functional configuration	Pulse short circuit, insulation resistance, single channel test	Pulse short circuit, insulation resistance, three-channel scanning	
	Output voltage	Range: (50~ 1000)VDC,Resolution 1V,Error ±(1	% x setting value+5V); [optional 2000V output]	
	Charge and discharge modes	Maximum 50mA constant current charge, m	aximum 30mA constant current discharge	
Pulse short	Test time	Charging time TK, discharging time TF; Range: 50ms ~ 3000ms;  Resolution: 1ms;Error ±(0.5% setting value +2ms)		
	Judgment parameters	Rise fall V1 (0-100%), hold fall V2 (0-100%), discharge fall V3 (0-100%), resolution (		
	Cell static capacity	100nF-10	0,000nF	
	Output voltage	Range: (25-1,000)VDC, resolution	n: 1V, Error ±(1% x setting +2V)	
		25V-1	00V:	
		0.002MΩ-499.9MΩ: ±(5%	×Reading value+2 digits)	
		101V-499V:		
		0.010MΩ-199.9MΩ, ±(2%×Reading value+2 digits);		
		200.0MΩ-2.000GΩ: ±(5%×Reading value+2 digits)		
	Insulation resistance measurement	500V-1,000V:		
		0.020MΩ-999.9MΩ, ±(2%×Reading value+2 digits);		
Insulation		1.000GΩ-9.999GΩ: ±(5%×Reading value+2 digits)		
resistance		10.00GΩ-49.99GΩ: ±(15%×Reading value);		
test		50.00GΩ-99.99GΩ: ±(		
	Test time	Range: 0, (0.5-999.9)s, 0 is infinite,		
	Jacobson de La Carta	resolution: 0.1s, Error: ±(0.1	%×setting value+2 digits)	
	Ramp up time	Range: 0, (0.1-999.9)s, 0 rep	presents ramp-up disabled,	
		resolution: 0.1s, Error: ±(0.1%×setting value+2 digits)		
	Ramp down time	Range: 0, (1-999.9)s, 0 repre	sents ramp-down disabled,	
	Ramp down time	resolution: 0.1s, Error: ±(0.1	%×setting value+2 digits)	
	Upper/lower limit	Range: 0.002MΩ-99.99GΩ, 0 in	ndicates no upper limit setting	
	SIGNATURA WAS A SELVE MARKETONIA STANDON WAS SELVED AS	Maximum 50mA constant current charge		
	Charge and discharge modes	maximum 30mA constant current discharge		
	Power supply	AC220V±10°	%, 47-63Hz	
Other	Display operation	LCD, 5 inch color dis		
specifications	Output interface	RS232C, LAN, PLC USB (data storage via USB flash drive)		
	Dimensions (W×H×D mm)	213×88×360		
	Dimensions (MVIIVD mm)	213×88	3~000	

ANBTS7202(F) Series

## Large Capacity Pulse Lithium Battery Cell Short Circuit Tester



#### **Product Overview**

The ANBTS7202(F) Series Large Capacity Pulse Lithium Battery Cell Short Circuit Tester from Ainuo Instrument Co., Ltd., by adopting a step pulse boosting method and monitoring the slight voltage drop in real time and throughout the process, can effectively detect insulation short circuits, micro-short-circuits, etc. in unqualified and suspicious Lithium battery cells caused by damage, folds, perforation, foreign objects, burrs, etc., on the isolating membrane. (The step pulse boosting method meets the requirements of JISC 2110-1, IEC60243-1.ASTMD149-2009 "Test Method for Electrical Strength of Insulation Materials").

ANBTS7202(F) Series are widely applied in such processes as stacking, winding, cell assembly and before injection, applicable for insulation performance testing between the positive and negative electrode sheets of lithium battery cells, as well as between the positive and negative electrode tabs and the battery cell shell before injection under 100nF-100000nF static capacity.

#### Features

- Whole-process monitoring: Monitor the step pulse waveform in real time and throughout the process to effectively recognize the local micro-short-circuit discharges
- Fast: Millisecond-level test speed, high detection efficiency.
- Wide range: Output voltage 50~1000V adjustable, equivalent capacity 100~100000nF
- Data storage: local test data and waveform storage, supporting to export to USB



Figure 1 Step boosting method



Figure 2 Test process of 40uF battery cell under 400V voltage (boosting time 122ms)



Figure 3 Test process of 100uF battery cell under 400V voltage (boosting time 301ms)

## Specifications

	Model	ANBTS7202(F)	ANBTS7202X(F)	
Function	onal configuration	Pulse short circuit	Pulse short circuit	
	Output voltage	Range: (50~ 1.000)VDC,Resolution	1V,Error ±(1%xsetting value+5V)	
Pulse short	Test time	Range: 50ms ~3000ms;Resolution: 1ms;Error ±(0.5% setting value +2ms)		
(3-channel option)	Judgment parameters	Rise fall V1 (0-100%), hold fall V2 (0-100%),	discharge fall V3 (0-100%), resolution 0.1V	
ориону	Cell static capacity	100nF-30,000nF	100nF-100,000nF	
	Power supply	AC220V±10%	6,47~63Hz	
Other	Display operation	LCD, 5 inch color display, touch screen		
pecifications	Output interface	RS232C,LAN ,PLC,USB(data	storage via USB flash drive)	
	Dimensions (W×H×D mm)	213×88×360		

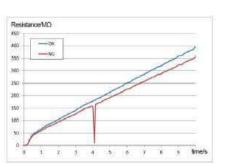
#### **Insulation Resistance Tester** ANBTS7101(F) Series



#### **Product Overview**

For the ANBTS7101(F) Series Insulation Resistance Tester, addressing the weaknesses of conventional CV mode insulation resistance testers in the testing process of electrical products with relatively large static capacitance, such as lithium battery cells, including long ramp-up time, slow discharge process, large insulation resistance value fluctuations, and poor repeatability, the ANBTS7101(F) Series Tester uses an innovative mode of CC charging, CV pressure holding, and CC discharging to realize fast, accurate, and safe testing of insulation resistance for electrical products with large capacitance characteristics.

The ANBTS7101(F) Series Tester is suitable for insulation resistance testing of electrical products with relatively large static capacitance, such as power batteries, energy storage batteries, 3C batteries, super capacitors, aluminum electrolytic capacitors etc.



Safety Analyzer \\

#### Features

- Wide range: Voltage 25V-2,000V and resistance  $2k\Omega$ -100G $\Omega$ , allowing for accurate testing of a wide voltage range and high insulation resistance values
- Fast: 50mA quick CC charging, CV pressure holding test and 30mA quick CC discharge mode, capable of conducting quick insulation test of super capacitor up to 500uF
- High accuracy: Support the double judgment of the resulting values and the process values, the automatic upload of the process
- Easy to use: Small in size, with rich interfaces and simple operation, particularly convenient for automated production lines and system integration use

Model	ANBTS7101(F)	ANBTS7101-3(F)			
Output channel	Single channel (HV1, HV2 (return))	Three channels (HV1/HV2/HV3, configurable as H/L/X)			
Output voltage	Range: (25-1,000)VDC, resolution: 1V,	Error ±(1%×Set value+2V)); [optional 2000V output]			
Insulation resistance measurement	101V-499V: 0.010MΩ-199.9MΩ, ±(2%×Reading va 500V-1,000V: 0.020MΩ-999.9MΩ, ±(2%×Reading va	.9MΩ, ±(5%×Reading value±2 digits); lue±2 digits); 200.0MΩ-2.000GΩ: ±(5%×Reading value±2 digits) alue±2 digits); 1.000GΩ-9.999GΩ: ±(5%×Reading value±2 digits) value); 50.00GΩ-99.99GΩ: ±(20%×Reading value)			
Test time	Range: 0, (0.5-999.9)s, 0 represents infinite duration, resolution: 0.1s, accuracy: ±(0.1%×Set value+2 digits)				
Ramp up time	Range: 0, (0.1-999.9)s, 0 represents ramp-up dis	sabled, resolution: 0.1s, accuracy: ±(0.1%×Set value+2 digits)			
Ramp down time	Range: 0, (1-999.9)s, 0 represents ramp-down di	sabled, resolution: 0.1s, accuracy: ±(0.1%×Set value+2 digits)			
Resistance upper/lower limit setting	Range: 0.002MΩ-99.99	GΩ, 0 indicates no upper limit setting			
Charge and discharge modes	Maximum constant current charge 50mA, maximum constant current discharge 30mA and discharge residual voltage monitoring function.				
Power supply	AC220V±10%, 50Hz/60Hz				
Display and operate	5-inch LCD color display, key and touch screen operation; RS232C, LAN, PLC and USB (storage) interfac				
Dimensions (W×H×D mm)	213×88×360				

Exceeding & Trustworthy

#### Safety Analyzer \\\ Exceeding & Trustworthy

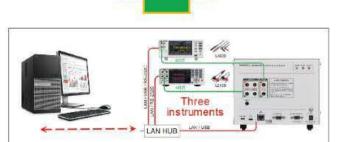
## **▼ High-accuracy Battery Tester** ANBTS7501H(F)



#### **Product Overview**

The ANBTS7501H(F) High-accuracy Battery Tester integrates the functions of a 71/2-digit voltmeter, an AC internal resistance tester, and a multi-channel switcher (optional), meeting the comprehensive testing requirements for AC internal resistance, open-circuit voltage, and side voltage in the production processes such as the aging and sorting of lithium batteries, the feeding of battery modules, the off-line of battery modules, and the off-line of battery packs in a one-stop manner.





#### Features

#### High accuracy

- Test for internal resistance : 7-range test, maximum resolution 0.1uΩ, 0.5% basic accuracy
- ▼ Voltage test: 7½-digit display, 10nV resolution, 20ppm basic accuracy

#### High speed

- Multiple test speeds: Quick\medium\slow speeds and customized sampling speed, average number of times
- Automatic switching: Automatically complete the internal resistance test, voltage test and channel switching
- One control instruction: The PC can complete all the switching tests with just one instruction

#### More convenient

- Convenient to use: Human and machine interaction of 5-inch touch screen + key + windowed menu, simple and
- Good compatibility: LAN, RS232, I/O interfaces, instructions compatible with similar products



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Internal resis	lance up	per limit		(
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Model	ANBTS7501H(F)						
Functional Configuration	MAX100V, ACIR						
		Interna	Resistance Measu	rement			
Measurement Method			AC	four-terminal metho	d		
Current Frequency				1kHz±0.2Hz			
Measuring Current	100	mA	10mA	1mA	100mA	10	)uA
Resistance Range	3mΩ	30mΩ	300mΩ	3Ω	30Ω	300Ω	3000Ω
Maximum Display Value	3,1000mΩ	31.000mΩ	310.00mΩ	3.1000Ω	31.000Ω	310,00Ω	3100.0Ω
Resistance Resolution	0.1υΩ	1υΩ	10υΩ	100υΩ	1mΩ	10mΩ	100mΩ
Resistance Accuracy	3 mg	2 range: ±(0.5% ×	Reading value+10 d	gits); 3 mΩ or more	range: ±(0.5%×Read	ing value+5 digits)	
		8	/oltage Measureme	nt			
U-RANGE	100mV		1000mV		10V	100V	č
Maximum Value Display	±120.000 00	mV	±1200.000 0mV	/ ±12.000 000V		±120.000 00V	
Voltage Resolution	10nV		100nV		1uV	10uV	
Resistance range	±(0.0030%rd+	-2uV)	±(0.0020%rd+3uV	) ±(0.002	0%rd+12uV)	±(0.0030%rd-	-0.8mV)
		-	Other Specifications			1	
Other Functions	Temperatur		contact detection, corage of 100 sets;		election, range selection and selection are selected selections.	ction, function sele	ection,
Instrument Interface			RS	232, LAN, USB, I/O	0		
Operational Environment			_		%rh (no-condensing ow 80%rh (no-conde		
Power specifications			AC220V:	10%, 50Hz/60Hz, 1	100VA		
Dimensions (W×H×D mm)				258×132×336			





#### **Product Overview**

ANBTS7610(F) Series DC Voltmeter, through a highly stable reference voltage source, automatic calibration technology and strong anti-interference capability, provides DC voltage measurement with 20PPM basic accuracy and 71/2 high resolution; suitable for open circuit voltage measurement (OCV) of lithium battery cells, modules and packs.

#### Application Scenarios

- Scene 1: K value screening: Cell battery aging, high-accuracy voltage measurement, rapid screening of poor K-value, and improvement of test efficiency.
- Scene 2: consistency screening: For the batteries at the end of the production line and those in module and PACK when they are put into production, voltage consistency sorting is carried out to achieve precise matching.
- Scene 3: battery maintenance: With a wide measurement range from as low as 10 mV to as high as 1000 V and high-accuracy measurement, it can quickly locate the faulty batteries.
- Scene 4: battery R&D: with high accuracy, high resolution, high stability, and being simple and easy to use, it is an excellent tool for R&D, test and analysis.

#### Features

#### | High precision measurement

¬ 7½-digit high resolution, 20PPM basic accuracy (10V) voltage range).

#### High-stability reference

A high-stability reference voltage source with low temperature drift lays the foundation for precise measurement.

#### Self-calibration function

\* Eliminate the influences of circuit offset, noise, and temperature drift to ensure long-term stability.

#### I Temperature compensation

Through the measurement of ambient temperature, the voltage is automatically corrected to the room temperature voltage.

#### Simple and easy to use

Touch screen operation, provided with multiple interfaces including RS232, LAN, USB, I\O.

## Specifications

Model	ANBTS7610H(	F) (7½-digit)	ANBTS7610B(F	) (61/3-digit)	I December 1 August 1 State of the Land of		
Model	Display Range	Resolution	Display Range	Resolution	Input Impedance	Measurement Accuracy	
100mV	±120.000 00mV	10nV	±120.000 0mV	100nV	$> 10G\Omega/10M\Omega$	±(0.0030%rd+2uV)	
1000mV	±1200.000 0mV	100nV	±1200.000 mV	1uV	>10GΩ/10MΩ	±(0.0020%rd+3uV)	
10V	±12.000 000V	1uV	±12.000 00V	10uV	>10GΩ/10MΩ	±(0.0020%rd+12uV)	
100V	±120.000 00V	10uV	±120.000 0V	100uV	10ΜΩ	±(0.0030%rd+0.8mV)	
1000V	±1100.000 0V	100uV	±1100.000 V	1mV	10ΜΩ	±(0.0030%rd+2mV)	
Other Functions					t detection, FIR data filte er interfaces, protocol co		
Dimensions (W×H×D mm)		213×88×300					

## **Battery Tester** ANBTS7500(F) Series



#### **Product Overview**

The ANBTS7500(F) Series Battery Tester utilizes a 1kHz AC constant current source and four-terminal method to measure the AC internal resistance (ACIR) and open circuit voltage (OCV) of lithium batteries, providing the resolution of the AC impedance as low as 0.1uΩ and excellent anti-interference ability.

The ANBTS7500(F) Series Battery Tester is widely applied in the processes such as the formation and grading of the cell, the on-line screening of the battery in the module and battery pack, and the off-line detection, etc.

#### Features

#### High-accuracy test

- <sup>¬</sup> Battery internal resistance ranges from 0.1uΩ to 3.1kΩ, with 0.5% accuracy, and 7 ranges.
- Open circuit voltage ranges from 10uV to 100\300V, with 0.01% accuracy, and multiple ranges.

#### Comparator function

The battery internal resistance and open circuit voltage have comparator function switches, which can be used to set upper and lower limits for resistance and voltage respectively, compensating for testing.

#### Test reliabilty

AC four-terminal method testing, with 4mm diameter coaxial contact points and interference-resistant testing cables. Contact detection function, with programmable anti-spark design.

Model		ANBTS	7501(F)			ANBTS75	03(F)	
Functional Configuration		MAX100	OV, ACIR		MAX300V,	ACIR		
			AC Internal R	lesistance				
Measurement method		AC four-terminal method						
Current frequency				1kHz±	0.2Hz			
Resistance range	3mΩ	30mΩ	300mΩ	3Ω	30Ω	300Ω	3000Ω	
Maximum display value	3.1000mΩ	31.000mΩ	310.00mΩ	3.1000Ω	31.000Ω	310.00Ω	3100.0Ω	
Resistance resolution	0.1uΩ	1υΩ	10υΩ	100υΩ	1mΩ	10mΩ	100mΩ	
Measuring current	10	0mA	10mA	1mA	100uA		10uA	
Resistance accuracy	3 1	mΩ range; ±(0.5	% ×Reading valu	ie+10 digits); 3 i	mΩ or more rang	ge: ±(0.5%×Readin	g value+5 digits)	
			DC Volt	age				
U-RANGE	6V	60	V		100V	300V		
Voltage resolution	10µV	100	ΟμV	1mV			1mV	
Maximum display value	±6.00000V	±60.0	V000V	±100.000V			±310.000V	
Voltage accuracy			±(	0.01% × Readin	g value +3 digits	3)		
Panel function	w	ith the open circ			e of 100 sets of selection, range	test conditions, e selection, function	selection, etc.	
Interface function				RS232,	LAN, I/O			
Operational environment	Operatio	Operational environment: 0 C-40 C, below 80%rh (no condensation); Accuracy guarantee environment: 23 C±5 C, below 80%rh ((no-condensing)						
Power supply specifications				AC220V±10%, 5	50Hz/60Hz, 20V/	4		
Dimensions (W×H×D mm)				213×8	18×300			

## Battery Tester ANBTS7520(F) Series



#### **Product Overview**

The ANBTS7520(F) Series Battery Tester utilizes a 1kHz AC constant current source and four-terminal method to measure the AC internal resistance (ACIR) and open circuit voltage (OCV) of lithium batteries, providing the resolution of the AC impedance as low as  $0.1u\Omega$ , excellent anti-interference ability and anti-spark design.

The ANBTS7520(F) Series Battery Tester is widely applied in such processes as the battery offline detection, etc. of the power batteries, the energy storage battery cabinets and other high-voltage large modules\battery packs.

## Features

#### I High-accuracy test

- $\blacksquare$  Battery internal resistance ranges from 0.1u $\Omega$  to 3.1k $\Omega$ , with 0.5% accuracy, and 7 range levels.
- Open circuit voltage ranges from 10uV to 2100V, with 0.01% accuracy, and multiple range levels.

#### Comparator function

The battery internal resistance and open circuit voltage have comparator function switches, which can be used to set upper and lower limits for resistance and voltage respectively, compensating for testing.

#### Test reliabilty

AC four-terminal method testing, with 4mm diameter coaxial contact points and interference-resistant testing cables. Contact detection function, with programmable anti-spark design.

## Specifications

Model		ANBTS7510(F)					S7520(F)	
Functional Configuration	MAX1000V, ACIR					MAX21	00V, ACIR	
	"		AC Internal R	esistance				
Measurement method		AC four-terminal method						
Current frequency				1kHz:	±0.2Hz			
Resistance range	3mΩ	30mΩ	300mΩ	3Ω	30Ω	300Ω	3000Ω	
Maximum display value	3.1000mΩ	31.000mΩ	310.00mΩ	3.1000Ω	31.000Ω	310.00Ω	3100.0Ω	
Resistance resolution	0.1υΩ	1uΩ	10υΩ	100υΩ	1mΩ	10mΩ	100mΩ	
Measuring current	100	)mA	10mA	1mA	100uA		10uA	
Resistance accuracy	31	3 mΩ range: ±(0.5% ×Reading value+10 digits); 3 mΩ or more range: ±(0.5%×Reading value+5 digits)						
			DC Volt	age				
U-RANGE	10	IV.	100V		1000V		2100V	
Voltage resolution	10	μV	100μV		1mV		10mV	
Maximum display value	±10.0	000V	±100.000V		±1100.00V		±2100.00V	
Voltage accuracy		±(	0.01% × Readino	g value +3 digits	s)		±(0.05%×Reading value+3 digits	
Panel function	w	ith the open circ			e of 100 sets of selection, range		ction selection, etc.	
Interface function		RS232, LAN, I/O						
Operational environment	Operatio	Operational environment: 0 C-40 C, below 80%rh (no condensation); Accuracy guarantee environment: 23 C±5 C, below 80%rh ((no-condensing)					ee environment: 23 C±5 C,	
Power supply specifications			,	AC220V±10%,	50Hz/60Hz, 20V/	Ą		
Dimensions (W×H×D mm)				213×8	39×360			

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Safety Analyzer

Analyzer Exceeding & Trustworthy

## ■ Lithium Battery-Intelligent Safety Regulation Comprehensive Analyzer



ANBTS743xH(F) Series



Front panel output terminals available (default: none)

optional rear panel output for DC Ground Bond card

#### **Product Overview**

The ANBTS743xH(F) Series Intelligent Safety Regulation Comprehensive Analyzer from Ainuo Instrument Co., Ltd. combines functions such as AC withstand voltage, DC withstand voltage, insulation resistance, AC ground bond, DC ground bond, as well as auxiliary functions including voltage ramp-up and ramp-down, arc detection, capacitance test (Y-capacitor, open and short circuit detection).

Addressing the unique product features and test requirements of power batteries and energy storage batteries, the series of products have added special testing functions, including waveform display, grounding/floating ground, low-pass filtering, rapid discharge, residual voltage monitoring, and other special functions.

The series of products offer a wide range of measurement options, including AC withstand voltage 5kV/100mA, DC withstand voltage 6kV/20mA, insulation resistance  $6kV/100G\Omega$ , AC ground bond  $64A/600m\Omega$ , and DC ground bond  $60A/600m\Omega$  (rear panel plug-in card output), with multiple channel switching cards.





#### Features

#### Safe and reliable

- Main drafting unit of state standards and verification regulations for safety testing products
- Nearly 30 years of safety testing expertise and follow-up of industry needs
- Complete EMC, environmental, load, working conditions, and fatigue test verification

#### Convenient and efficient

- Waveform Display: parameter waveform display, supporting cursors, zoom, and playback
- Auxiliary functions: Floating ground/grounding mode, low-pass filtering and residual voltage monitoring
- Quick measurement and control: Quick test, quick switching and quick discharge

#### Intelligent test

- Barcode Recognition: Barcode scanning, program matching, automatic startup, package
- ▼ Data management: local storage, network transmission, direct connection with MES system
- Rich ports: RS232,LAN, WIFI, USB, PLC and I/O control interfaces

## Specifications

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Model	ANBTS7436H(F) ACW/DCW/IR	ANBTS7438H(F) ACW/DCW/IR/GB			
AC withstand voltage (ACW)	5kVac/100mA				
DC withstand voltage (DCW)	6kVdc/20mA				
Insulation resistance (IR)	6kVdc/100GΩ				
Ground bond resistance (GB)	None	64Aac/600mΩ			
DC ground bond resistance (DCGB)	Optional 60Adc/600mΩ DC grounding card				
Capacitance test (C)	Optional: 10nF-300nF ca	apacitance measurement			
Parallel function	Optional: Parallel functions including g	grounding, insulation withstand voltage			
Multi-channel switching	Optional multi-channel high voltage and multi-channel grounding scanning card;				
Operation interface	when selecting the DC ground bond card at the same time, the height needs to be increased by 1U Android system, 7-inch touch screen, and RS232\LAN\WIF\PLC\USB interfaces				
Dimensions (W×H×D mm)	426×132×520				



## Ainuo

## Lithium Battery Intelligent Safety Regulation Analyzer ANBTS7436H-12kV(F) Series



★ Function: Multiple function combination including ACW/DCW/IR/DCGB/ multiple channel switching cards

Exceeding & Trustworthy

★ High Precision: 1% accuracy

★ Informatization: Android platform, data storage, barcode recognition, MES connection

#### **Product Overview**

The 12kV High Voltage Series Intelligent Safety Regulation Comprehensive Analyzer from Ainuo Instrument Co., Ltd. possesses the features such as 12kV DC high voltage output, high accuracy and informatization, combines the functions such as AC withstand voltage, DC withstand voltage, insulation resistance, DC grounding, as well as arc detection, open and short circuit detection, low-pass filtering, waveform display etc.

The product features an intelligent platform, informatization functions and automated interfaces, which can better meet the needs of high-quality development, intelligent manufacturing and industrial upgrading.

The series of products can meet the safety regulation testing requirements of various electrical products, including energy storage battery cabinets, high-voltage relays, high-voltage plugs, wires and cables, insulation materials, and insulation films for electrical applications.





Optional rear panel output for DC grounding card

optional rear panel output for 6-channel card

## Features

#### High reliability

- Main drafting unit of state standards and verification regulations for safety testing products
- Nearly 30 years of safety testing expertise and follow-up of industry needs
- Strict electromagnetic, environmental, load, working conditions simulation test platform

#### High speed

- Quick measurement and control: Quick test, quick switching and quick discharge
- Configure Flexible: multi-channel switching card, DC grounding card, plug and play

#### Intelligent

- Intelligent Safety Regulation: Android system, 7" touch screen, self-learning smart keyboard
- Automation: Barcode scanning and automatic recognition, PLC interface and I/O interface
- Informatization: Data storage, directly connect to MES system, RS232/WIFI/LAN interfaces

## Electrical Safety Comprehensive Calibrator AN965-15(F)



- ★ Four-in-one point inspection: withstand voltage, insulation resistance, grounding, and leakage.
- ★ Automatic switching: cooperate with the safety comprehensive inspection group to automatically switch items and complete spot inspection at one time.

Safety Analyzer \

★ Convenient to use: years of customer experience and site adaptable, easy to use, error-proof.

#### Features

- Four in one: combination of withstand voltage current, insulation resistance, grounding resistance, and leakage current calibration functions.
- Dual-gear spot inspection: two-level spot inspection for each spot inspection, complete confirmation for pass/fail.
- Automatic identification: detects and switches between withstand voltage, insulation resistance, grounding, and leakage tests, automatically adapting to safety comprehensive inspection requirements.

#### Specifications

Ground bond resistance test	Stage	Input current	Grounding resistance	Duration	Test terminal
	Stage 0	≤25A	150mΩ±15mΩ	Less than 5 seconds	Ground bond stage 0+loop
spot inspection specifications	Stage 1	≤25A	75mΩ±8mΩ	Less than 5 seconds	Ground bond stage 1+loop

Insulation resistance test spot	Stage	Input voltage	Insulation resistance	Measuring terminal
	Stage 0	≤1400V	120±12MΩ	High voltage+loop
inspection specifications	Stage 1	≤1400V	60±6MΩ	High voltage+loop

Withstand voltage	Stage	Input voltage	Current-limiting resistor	Reference current point input voltage 1,650V	Reference current point input voltage 1,800V	Test terminal
current test spot	Stage 0	≤2000V	600kΩ±12kΩ	2.75mA	3.00mA	High voltage+loop
inspection specifications	Stage 1	≤2000V	200kΩ±4kΩ	8.25mA	9.00mA	High voltage+loop

Leakage current test spot	Stage	Input voltage	Load resistance	Reference current point input voltage 233V	Reference current point input voltage 244V	Test terminal
inspection specifications	Stage 0	≤290V	460kΩ±23kΩ	507µA	530µA	High voltage+loop
PILITED AND AND AND AND AND AND AND AND AND AN	Stage 1	≤290V	230kΩ±11.5kΩ	1013μΑ	1061μΑ	High voltage+loop

Model	ANBTS7435H-10KV(F)	ANBTS7436H-12KV(F)
AC withstand voltage (ACW)	10kV/20mA	10kV/40mA
DC withstand voltage (DCW)	10kV/20mA	12kV/20mA
Insulation resistance (IR)	10kV/100GΩ	12kV/100GΩ
DC ground bond (DCGB)	Optional 60A or 40A/600mΩ	Optional 100A/600mΩ
Multiple channel switching	Optional 6-channel high voltage switching card (when selecting the DC gro	und bond card at the same time, the height needs to be increased by 1U
Operation interface	Android platform, 7-inch color touc	h screen, RS232\PLC\USB\LAN
Dimensions (W×H×D mm)	426×132×520	426×177×520

Safety Analyzer \\

Safety Analyzer

## Withstand Voltage Calibrator AN16015H(F)

Ainuo // Safety Analyzer



★ Various specifications: AC/DC withstand voltage and current verification and insulation resistance test voltage verification.

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★ Convenient usage: the company has accumulated years of on-site experience with the calibration instrument, making this product user-friendly, error-proof, and efficient.

## Features

- Regulatory compliance: compliant with the JJG795-2016
  Withstanding Voltage Testers
- Usability: multiple gear knobs with color-coded rings, easy to operate, error-free, and user-friendly
- Portability: optional professional protective trolley case is available, and the calibration device can be used horizontally or vertically

## Specifications

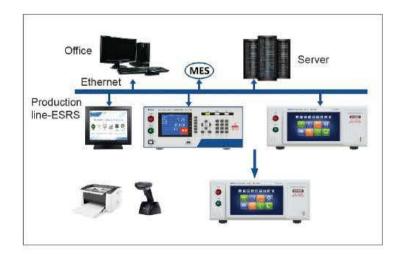
Model Function		AC	AN16015H(F) /DC Withstand Voltage T	ester	
	Integra	ated with high voltage me	eter, current meter, and w	vithstand voltage k	oad resistance,
	it can meet the me	asurement and calibratio	n requirements for AC/D	C withstand voltag	e and insulation resistance.
Voltage measurement	(0.1000-9	9.9999)kV; (10.000-15.00	0)kV; 0.0001kV/0.001kV	; ±(0.5%×Reading	value+2 digits)
Current measurement	(0.1000-9.999910.0	00-99.999100.00-240.0	00mA; 0.0001mA/0.001n	nA/0.01mA; ±(0.5%	6×Reading value+0.002mA)
Frequency measurement	Measurement range	(45.00-65.00) Hz	Error ran	ige	±0.5%×Reading value
Harmonic measurement	50 times of harmonics	Range	0.50%-10.00%	Error range	Less than 1% (absolute error)
Ripple measurement	Measurement range	0.50%-10.00%	Error range	Less t	han 1% (absolute error)
Time indicator	"	1.00s-999.99s,	0.01s, 0.5%±2 digits (0.2	% for over 10s)	
FE 34.5 (1.1)	W	hen using rough or fine lo	oad adjustment, the volta		ed 1.5kV,
Built-in load	10m	0.5mA(1944.77KΩ); 1n A(94.77k); 20mA(44.77k	nA(944.77K); 2mA(444.7 ); 50mA (19.77kΩ); 100m		

## Safety Tester Remote Control Software ESRS

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- ★ Industrial control platform: industrial computer running on Windows environment, equipped with professional electrical safety regulation remote measurement and control software ESRS.
- ★ Intelligent test: supports barcode recognition, automatic program matching and automatic startup test, with automatic storage of test data.
- ★ **Program editing:** open-ended test program editing, supporting storage on local or server, and invocation of test programs from them.
- ★ Data traceability: synchronizes test data storage with local end, server end, or MES end, providing local test data management.
- ★ MES connection: supports multiple MES connection functions, including intermediate table connection methods for databases such as Sql Server, Oracle and Mysql, Modbus TCP connection method, Web Api interface connection method, as well as local TXT text, Access database and other connection methods.









AC Power Supply ANFC(F) / ANFS(F) Series



Regenerative Grid Simulator ANRGS(F) Series



Programmable High Power AC Power Supply ANFP(F) Series



Programmalbe Grid Simulator ANGS(F) Series



Bidirectional Grid Simulator ANBGS(F) Series



Programmalbe AC Test Power Supply AN61(F) Series



Constant Current AC Power Supply ANCC(F) Series





#### Product Introduction

ANFH(F) series AC power supply adopts digital technologies including digital control, instantaneous waveform control, and high-frequency pulse width modulation (SPWM). The power supply has the ability to withstand impact of 3 times the rated current, featuring strong load adaptability, mainly for applications such as home appliances, motors, and production lines, power solutions meeting the essential needs of traditional industries as well as equipment replacement and updates. The power supply is designed suitable for 19" standardchassis, small size and rich interfaces, and can be directly installed in a standard cabinet for various applications such as testing, systemintegration, production line, etc.; as well as 4.3" color LCD touch screen + plastic shell panel, aesthetic and high-end appearance, and easy-to-use and intuitive operation.

#### Applications

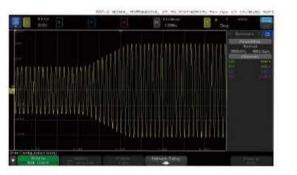
Over shock capacity: impact loads with 1/3 power can be directly started without soft start

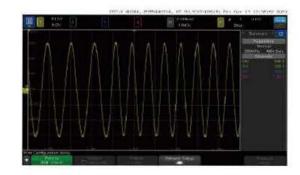


#### Features /

- 19" standard chassis, compact, can be installed in standard cabinet
- Withstand 3 times the rated current lasting for 2S, directly start impact load equivalent to 1/3 of the power
- Adjustment of voltage/frequency in output state
- Startup ramp-up and online ramp-up, and the ramp-up time can be set
- Measurements: voltage, current, frequency, active power
- Voltage level: 1.0~150.0V, 150.1~300.0V automatically adjustable or locked within 1.0~300.0V
- Line voltage drop compensation
- Multi shortcut groups, power-down memory and shortcut
- 4.3" color touch screen, convenient and intuitive
- I Key lock and humanized design to avoid misoperation
- Operating data recorders: automatically record the power state when alarming and alarm code etc
- Standard RS232 port, optional RS485/GPIB/Ethernet port or analog control

Adjustment of voltage/frequency in output state



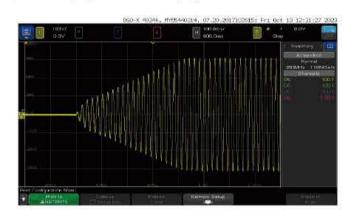


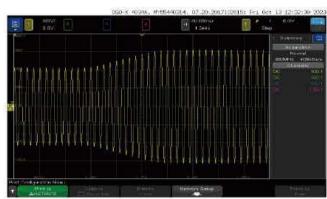
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## Ainuo

Start ramp up and online ramp up





■ 4.3" color touch screen, convenient and intuitive





Online monitoring function



■ PC control software



#### Specifications

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	Mo	odel	ANFH000S(F)	ANFH001S(F)	ANFH002S(F)	ANFH003S(F)	ANFH005S(F)	ANFH010S(F)	ANFH010TS(F)
	Cap	acity	500 VA	1 KVA	2 KVA	3 KVA	5KVA	10KVA	10KVA
	Number	of phases			Sing	gle-phase two-wire	PE		3-phase 4-wire+Pt
Input	Volt	tage			Pha	se voltage: 220V±1	0%		Line Voltage:380V±10
	Frequ	uency				50/60Hz±3 Hz			
	Number	of phases			s	ingle-phase two-wi	re		
	Volt	tage	P	hase voltage: 1.0		tic state: (low-grade grade lock: 1.0 ~ 30		-grade)150.1-300	IV.
	Frequ	uency		8	45.0Hz ~ 65.0Hz,	100Hz, 120Hz, 200	Hz, 240Hz, 400H	Z	
	Rated	110 V	4.6A	9.2A	18.2A	27.4A	45.6A	91.0A	91.0A
	current	220 V	2.3A	4.6A	9.1A	13.7A	22.8A	45.5A	45.5A
	Setting	Voltage	F			reading value+0.19 + 0.2% × full scale			)
	accuracy	Frequency			Resolutio	on: 0.1 Hz Precisio	n: 0.05%		
	Testing	Voltage	F			reading value+0.19 + 0.2% × full scale			)
	accuracy	Frequency			Resolutio	on: 0.1 Hz Precisio	n: 0.05%		
Output		Current		Resolution: 0.00	01A/0.01A/0.1A Pr	recision: 0.3% × rea	iding value+0.3%	×full scale value	
		Power	F	Resolution: 0.001	kW /0.01kW Pre	cision: 0.45% × rea	ding value+0.45%	6 × full scale value	9
	Frequenc	cy stability				≤0.02%			
	Voltage	distortion			Ĺ	inear load: THD<19	6		
	Transient r	ecovery time				20 ms			
	Voltage c	rest factor				1.41±0.1			
	Source vo	Itage effect				≤1%			
	Load	effect				≤1%			
	Overload	d capacity				5 seconds; 110%< ithin 2 seconds; 30			
	Shock re	esistance			Withstand	d 3 times rated cum	ent for 2S		
	Protection	on mode	Overh	eat protection, or	ver-current protecti	ion, output overload	protection, output	ut short-circuit pro	tection
	Effic	iency		>709	%		9	>80%	
	Displa	y mode			4.3*	color LCD touch so	reen		
	Soft-st	art time				0.0~99.9Sec.			
	Online adjust	tment function		The output v		frequency can be a ramp-up time can b		5.0~65.0Hz);	
Func-	Memory	function		Power dov	vn memory function	n, memorizing last	output mode and	parameters	
110910	Shortcu	ut group				8 groups			
	Line voltage cro	p compensation				$0.000\sim0.500~\Omega$			
	Commu	unication			Standard RS23	32, optional RS485	GPIB/Ethernet		
	Remote	e control			Opti	onal analog control	port		
Working Enviro-	Tempe	erature				0~40°C			
nment	Hun	nidity			T	20%~90%RH			
			30	j.	3U	4U	11U		13U
			432×133(	148)×420	432×133(148)×570	432×177(192)×570	432×488(563)×420	432×57	7(652)×420
Dir	nensions (W×H	×D mm)	The (		ght including mach an be removed	ine foot,		the height including casters can be re	ng machine caster, emoved
			Width	is 432mm(handle	excluded), 19" sta	andard chassis; 48	3mm (handle incl	uded), handle is o	ptional
	Weight (kg	)	17	20	26	35	59	82	82

AC Power Supply

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#### Product Introduction

The ANFC(F) series AC power supply adopts FPGA digital control, instantaneous waveform control and high-frequency pulse width modulation (SPWM) technologies. It has the advantages of fast response speed, high output accuracy, and superior waveform quality; it can withstand 3 times the rated current impact, high capacity and strong load adaptability; adopts modular design concept, small volume and weight, convenient operation and high cost performance. Mainly used in applications such as home appliances, motors and production lines, it is one solution that meets the basic needs of traditional industries and a power supply alternative for equipment upgrades.

#### Features

- Adopt FPGA digital technology, realize accuracy control and high quality sine wave output;
- Operating in over current shock (up to 3 times of rated current)within 2s, start the impact load of 1/3 capacity of power supply directly;
- Adjustable voltage and frequency during output status;
- Three-phase loading separately, start single phase output by U/V/W fast settings; (Only suitable for three-phase output power supply);
- Measurement: voltage, current, frequency, active power;
- Online monitoring: monitor IGBT temperature, transformer temperature, fan speed, input voltage and other parameters during output status;
- Operating data recorders: keep the record of power supply status and alarm code automatically during alarming;
- Voltage range: 1.0-150.0V or 150.1-300.0 V automatic adjustment, or locked at 1.0-300.0V;
- Shortcuts groups, power-off memory, shortcuts key and knobs operation;
- Fan speed will be adjustable automatically with the temperature of power supply to reduce the noise;

Lock key, user-friendly design, automatically locking without operation for 5 minutes to prevent from operation mistakes;

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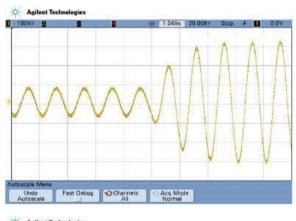
Standard RS232, optional RS485, GPIB, Ethernet, analog control and other remote communication/control.

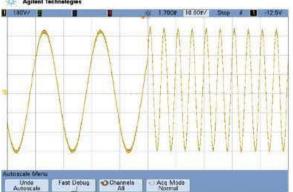
#### Applications

Over shock capacity: Can withstand 3 times the rated current shock for 2 seconds, impact load of 1/3 capacity of the power supply directly without soft start (below 1000KVA)



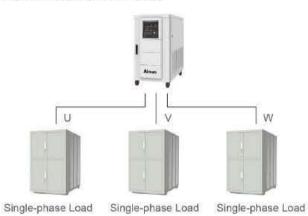
Adjustable voltage and frequency during output





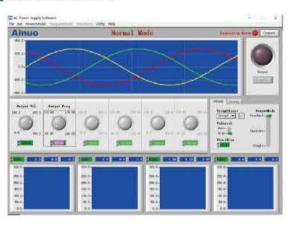
Three-phase loading separately(Only suitable for three-phase output power supply)

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#### PC control software

AC Power Supply \\



#### Specifications

	· M	odel	ANFC015S(F)	ANFC020S(F)	ANFC030S(F)	ANFC045S(F)	ANFC060S(F)	ANFC090S(F)	ANFC120S(F)			
	Ca	pacity	15kVA	20kVA	30kVA	45kVA	60kVA	90kVA	120kVA			
Input	Voltage,	Frequency		3-phase 4-wire +	PE, Phase voltag	ge: 220V±33V, line	voltage: 380V±57	V, 50/60Hz±3Hz	9			
	Vo	ltage	single-phase two	-wire, Automatic	state: (low-grade)	1.0 ~ 150.0V, (high	n-grade) 150.1~300	DV; high-grade l	ock;1.0 ~ 300.0\			
	Fred	quency			40.00 ~70.00Hz	, 100Hz 120Hz	200Hz 240Hz		-			
	Rated	110V	136.3A	181.8A	272.7A	409.1A	545.4A	818.2A	1090.9A			
	current	220V	68.2A	90.9A	136.3A	204.5A	272.7A	409.1A	545.4A			
	Setting	Voltage		Resolution	on: 0.1V; accura	cy: 0.2%xreading \	value +0.2%xfull so	ale value				
	accuracy	Frequency			Resolution	n: 0.1Hz; accura	cy: 0.05%					
		Voltage		Resolution: 0.1V; accuracy: 0.2%xreading value +0.2%								
	Testing	Frequency			Resolution	n: 0.1Hz; accura	cy: 0.05%	WARE STAN BY				
	accuracy	Current		Resolution: 0.1A/1A, accuracy: 0.3%×readin				full scale value				
	~	Power	R	esolution: 0.1kW	/0.01kW/0.001kW	accuracy: 0.45%	6×reading value+0	+0.45%×full scale value				
Output	Frequen	cy stability				≤0.02%						
	Voltage	distortion			Éir	near load: THD<	1%					
	Transient r	recovery time				20ms						
	Cres	st factor				1.41±0.1						
	Source ve	oltage effect				≤1%						
	Load	d effect				≤1%						
	Overloa	d capacity			will be stopped wit tput will be stopped							
	Protect	ion mode			r current。Transfo				Activities (Control of Control of			
	Online adjus	stment function		The output vo	Itage and frequenc	y (45~65Hz) ca	n be adjusted onlin	e under status				
Func-	Memor	y function	Pow	er down memory	function, memory l	ast output mode a	nd parameters; S	hortcut group 7 gi	roups			
tion	Line voltage dr	op compensation	on 0.000 ~ 0.500Ω									
	Communication	n control interface		Standard:	RS232; Optional	: RS485, GPIB,	Ethernet, Analog	g control port				
nviron- ment	Temperature	e and humidity			0-	-40℃; 20~90%l	RH					
D	imensions (W×	H×D mm)		600×1130×1018			700×1330×1218		800×1768×141			
	Weight (K	(a)	175	190	250	370	500	560	970			

AC Power Supply \\\

## Specifications

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	M	odel	ANFC015T(F)	ANFC030T(F)	ANFC045T(F)	ANFC060T(F)	ANFC090T(F)	ANFC120T(F)	ANFC180T(F)	ANFC240T
	Ca	pacity	15kVA	30kVA	45kVA	60kVA	90kVA	120kVA	180kVA	240kVA
Input	Voltage,	Frequency		3-phase 4-w	ire + PE, Phase	e voltage: 220V±	:33V, line voltage	380V±57V, 5	0/60Hz±3Hz	
	Vo	Itage	3-phase 4	1-wire, Automat	tic state: (low-gra	ade)1.0 ~ 150.0\	/, (high-grade) 1	50.1~300V hig	gh-grade lock:1.0	~300.0V
	Fred	juency			40.0 ~ 70	0.0Hz. 100Hz.	120Hz、200Hz	240Hz		
	Rated	110V	45.4A	90.9A	136.3A	181.8A	272.7A	363.6A	545.4A	727.2A
	current	220V	22.7A	45.4A	68.2A	90.9A	136.3A	181.8A	272.7A	363.6A
	Setting	Voltage		Reso	lution: 0.1V, a	ccuracy: 0.2%	reading value +	0.2%×full scale	/alue	
	accuracy	Frequency			Res	solution: 0.1Hz	accuracy: 0.0	5%		
		Voltage		Reso	lution: 0.1V, a	ccuracy: 0.2%	reading value +	0.2%×full scale	value	
	Testing	Frequency			Res	solution 0.1Hz	, accuracy 0.0	5%		
	accuracy	Current		Resolu	ition: 0.1A/1A,	accuracy: 0.3%	6×reading value	+0.3%×full scale	e value	
		Power		Resolution 0.1	IkW/0.01kW/0.0	01kW, accurac	y 0.45%×readi	ng value +0.45%	×full scale value	
	Frequen	cy stability				≤0.0	)2%			
utput	Voltage	distortion				Linear load	THD < 1%			
	Transient r	ecovery time				20	ms			
	3 phase pha	ase difference				120	°±2°			
	Cres	t factor				1.41	±0.1			
	Source vo	oltage effect				<b>≤</b> 1	%			
	Load	deffect				≤1	%			
	Overloa	d capacity					ALTO MONOCOLOU MONOCOLO		ut will be stopped	
	Protect	ion Mode							output over cui	
	Online adjus	tment function		The outpu	ut voltage and fre	equency (45~6	5Hz ) can be ad	justed online un	der status	
unc-	Memor	y function	Po	ower down mem	ory function, me	mory last output	mode and para	meters; Shorto	ut group 7 group	s
tion	Line voltage dr	op compensation				0.000 ~	0.500Ω			
	Communication	control interface		Standa	rd: RS232; Op	otional: RS485	GPIB、Ethern	et. Analog cont	rol port	
viron- nent	Temperature	e and humidity				0~40℃; 2	0~90%RH			
E	Dimensions (W×	H×D mm)	600×11	30×1018		700×1330×121	В		800×1768×1418	ā
	Weight (	Kg)	260	300	430	540	730	970	1240	1390

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

## Specifications

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	Mo	odel	ANFC350T(F)	ANFC450T(F)	ANFC550T(F)	ANFC650T(F)	ANFC1000T(F)	ANFC1500T(F)	ANFC2000T(F			
	Cap	pacity	350kVA	450kVA	550kVA	650kVA	1000kVA	1500kVA	2000kVA			
Input	Voltage,	Frequency		3-phase 4-wire +	PE, Phase voltag	ge: 220V±33V, line	voltage: 380V±57	V, 50/60Hz±3Hz				
	Vol	tage	Auto	omatic state: (low-g	rade) 1.0 ~ 150.0\	3-phase 4-wire, /, (high-grade) 150	.1~300V; high-gr	rade lock:1,0 ~ 300	0.0V			
	Freq	uency	40.0 -	- 70.0Hz, 100Hz	120Hz、200Hz、	240Hz		40.0 ~ 70.0Hz				
	Rated	110V	1060A	1363A	1666A	1970A	3030A	S* <del>***</del> :	) <del>=</del>			
	current	220V	530.3A	681.8A	833.3A	984.8A	1515A	2272A	3030A			
	Setting	Voltage		Resolution	n: 0.1V, accurac	y: 0.2%×reading	value +0.2%×full s	cale value				
	accuracy	Frequency			Resolution	0.1Hz, accurac	cy: 0.05%					
		Voltage		Resolution	n: 0.1V, accurac	y: 0.2%×reading	value +0.2%×full s	cale value				
	Testing	Frequency		3100-100,030-	Resolution	0.1Hz, accurac	cy: 0.05%	2.7° 0.8° 1,4° 1,4° 1,7° 1,5° 1,5° 1				
	accuracy	Current		Resolution:	0.1A/1A, accura	icy: 0.3%×reading	g value +0.3%×full	scale value				
	Colonial Point William	Power	Re	esolution: 0.1kW/0	.01kW/0.001kW,	accuracy: 0.45%	×reading value +0	.45%×full scale val	ue			
	Frequen	cy stability										
	Voltage	distortion			1%							
	Transient re	ecovery time			V(C)							
	3 phase pha	se difference				120°±2°						
Output	Cres	factor				1.41±0.1						
	Source vo	Itage effect				≤1%						
	100	effect				≤1%						
	Overload	will be stopped within 15s; 110% < C  110% < output≤200% the output will be stopped within 5s; will to ad capacity  200% < output≤300% the output will be stopped within 2s; 150% < C  300% < output the output will be stopped immediately will be 200%						150% < Output ≤ will be stoppe 200% < Outp	d within 15s; 150% the outputed within 5s 200% the outputed within 2s; ut the outputed immediately;			
	Protecti	on mode		erheat、IGBT over t under voltage、C				Input over vol	100 <del>20</del> 100 100 100 100 100 100 100 100 100 1			
	Online adjus	tment function		The output vol	tage and frequenc	y (45~65Hz) car	n be adjusted onlin	e under status				
Land Colors du T	Memory	function	Pow	ver down memory f	unction, memory la	ast output mode ar	nd parameters S	hortcut group 7 gro	ups			
Func- tion	Line voltage dro	p compensation				$0.000 \sim 0.500\Omega$						
	Communication	control interface		s	tandard: RS232	Optional: RS48	5、GPIB、Etherne	et .				
	Remot	e control			Analo	og control port (opt	ional)					
nviron- ment	Temperature	and humidity			0	~ 40°C;20 ~ 90%R	Н					
Di	mensions (W×F	(×D mm)	1800×2000 ×1400	2400×2000 ×1400	3000 (140 ×1900	00+1600) ×1400	4200×2100 ×1400	*	5#5			
				2000	200							

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## AC Power Supply \\ Ainuo

## AC Power Supply ANFS(F) Series



#### Product Introduction

The ANFS(F) series AC power supply adopts FPGA digital control, instantaneous waveform control and high-frequency pulse width modulation (SPWM) technologies. It has the advantages of fast response speed, high output accuracy, and superior waveform quality; it can withstand 3 times the rated current impact, a variety of output modes, which can achieve "one machine with multiple functions" to meet the needs of customers for flexible use; it adopts 8-inch color LCD with exquisite and high-grade appearance, and digital keys make the operation more convenient. Mainly used in applications such as home appliances, motors and production lines. It is one solution that meets the basic needs of traditional industries and a power supply alternative for equipment upgrades. It also provides laboratories, quality inspection units, scientific research institutes and other applications more flexible power configuration scheme.

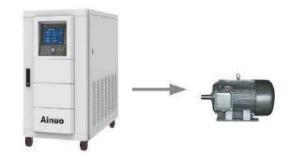
#### Features

- Adopt FPGA digital technology, realize accuracy control and high quality sine wave output;
- Advanced power output mode management: standard three-phase output, separated three-phase output (three-phase voltage and frequency adjusted independently), parallel single-phase output (three phase parallel, single-phase output) to achieve multi-function;
- Operating in over current shock (up to 3 times of rated current)within 2s, start the impact load of 1/3 capacity of power supply directly;

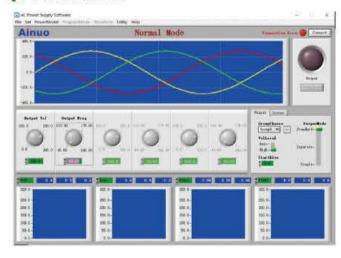
- Adjustable voltage and frequency during output status, frequency change without transit time;
- Measurement: voltage, current, current peak, frequency, active power, apparent power, power factor, voltage peak factor:
- Online monitoring: monitor IGBT temperature, transformer temperature, fan speed, input voltage and other parameters during output status;
- Operating data recorders: keep the record of power supply status and alarm code automatically during alarming, save the maintenance time;
- Fan speed will be adjustable automatically with the temperature of power supply to reduce the noise;
- Lock key, user-friendly design, automatically locking without operation for 5 minutes to prevent from operation mistakes:
- 8-inch large-screen color LCD display, digital key operation:
- Standard RS232, optional RS485, GPIB, Ethernet, analog control and other remote communication/control.

#### Applications

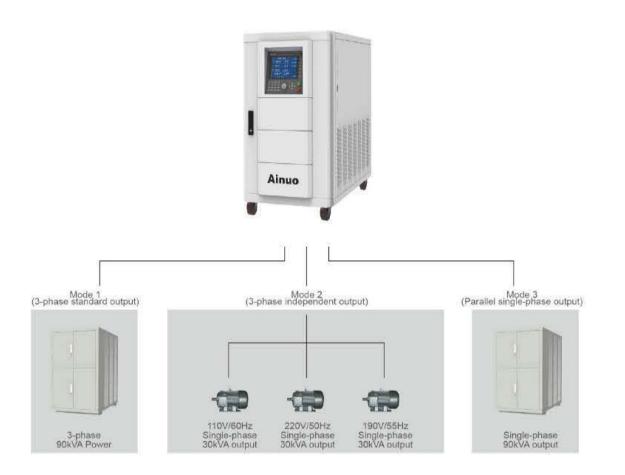
Over shock capacity: impact load of 1/3 capacity of power supply directly without soft start.



#### ■ PC control software

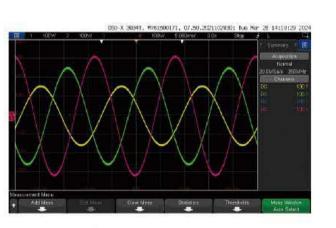


Output mode management (standard three-phase output, separated three-phase output, parallel single-phase output)



Large-size color LCD, digital key input, knob operation





Three-phase unbalanced output (amplitude unbalance + Angle unbalance)

## Ainuo

## Specifications

Ainuo /// AC Power Supply

	Mode	d)	ANFS015A(F)	ANFS030A(F)	ANFS045A(F)	ANFS060A(F)	ANFS090A(F)	ANFS120A(F)	ANFS180A(F)	ANFS240A(			
	Capac	ity	15kVA	30kVA	45kVA	60kVA	90kVA	120kVA	180kVA	240kVA			
Input	Voltage, Fre	equency		3-phase 4-v	vire + PE, Phase	e voltage: 220V:	±33V, line voltage	e: 380V±57V,5	0/60Hz±3Hz	Ha			
	Mode		3 phas	se standard mod	le, 3 phase inde	pendent mode,	parallel single p	hase mode, 3 p	hase unbalanced	l mode			
	Voltag	je	Phase voltage	: 0.0 ~ 300.0V,	Automatic state: (	low-grade) 0.0 ~	150.0V, (high-gra	nde) 150.1~300V	; high-grade lock	c:0.0 ~ 300.0			
	Frequer	ncy				40.00 ~2	40.00 Hz						
	3 phase	110V	45.4A	90.9A	136.3A	181.8A	272.7A	363.6A	545.4A	727.2A			
	standard mode rated current	220V	22.7A	45.4A	68.2A	90.9A	136.3A	181.8A	272.7A	363.6A			
	3 phase inde-	110V	45.4A	90.9A	136.3A	181.8A	272.7A	363.6A	545.4A	727.2A			
	pendent mode rated current	220V	22.7A	45.4A	68.2A	90.9A	136.3A	181.8A	272.7A	363.6A			
	parallel single	110V	136.3A	272.7A	409.1A	545.4A	818.2A	1090.9A	1636.4A	2181.8A			
	phase mode rated current	220V	68.2A	136.3A	204.5A	272.7A	409.1A	545.4A	818.2A	1090.9A			
	Setting	Voltage		Res	olution: 0.1V, a	occuracy: 0.2%	×reading value+	0.2%×full scale	/alue	1			
	accuracy	Frequency			Res	olution 0.01Hz	, accuracy: 0.0	05%					
		Voltage		Res	olution 0.1V, a	occuracy 0.2%	×reading value+	0.2%×full scale	value				
	Testing	Frequency			Res	olution 0.01Hz	, accuracy: 0.0	05%					
utput	accuracy	Current		Resol	ution: 0.1A/1A,	accuracy: 0.39	%×reading value	+0.3%×full scale	e value				
utput		Power		Resolution 0	.1kW/0.01kW/0.0	01kW, accurac	cy: 0.45%×read	ing value+0.45%	×full scale value				
	Frequency	stability				≤0.	02%						
	Voltage dis	tortion				Linear load	: THD < 1%						
	Transient reco	overy time				20	ms						
	Three phase pha	se difference	Th	ree phase stand	dard mode: 120°	±2° Three-ph	ase unbalanced	mode: 0.0°~359	9.9°, 0.1° adjustal	ble			
	Crest fa	ctor				1.41	±0.1						
	Source volta	ge effect				≤′	1%						
	Load eff	fect				≤′	1%						
	25070000000000	8707-5 × \$5,000	105% < out	put≤110% the o	utput will be stop	ped within 15s;	110% < output≤	200% the outpo	ut will be stopped	within 5s			
	Overload ca	apacity	200% <	output≤300% th	ne output will be s	stopped within 2	s; 300% < outp	ut the output wi	Il be stopped imr	nediately			
			IGBT	overheat IGB1	Fover current.	Transformer ove	rheat, Input un	der voltage.	Input over volta	ge.			
	Protection	mode	Out	out under voltag	ge、Output over	voltage, Outpu	ut over load. Or	utput short cirluit	output over cu	rrent			
	Display mod	de;Start		8	inch LCD display	, resolution 8	00*600 Soft-st	art time:0.0 ~ 99	.9s				
	Online adjustme	ent function		In the	normal mode, th	ne output voltage	and frequency	can be adjusted	online				
unc-				Pov	ver down memor	y function, mem	ory last output m	ode and parame	eters;				
tion	Memory fu	nction				shortcut gro	up:10 groups						
	Line voltage crop	compensation				0.000 ~	0.500Ω						
	Communic	cation		Stand	ard: RS232; O	ptional: RS485	GPIB Ethern	et、Analog cont	rol port				
viron- nent	Temperature ar	nd humidity				0 – 40°C , 2	20 – 90%RH		Analog control port				
	imensions (W×H×	D mm)	600×11	130×1018		700×1330×1218	3		800×1768×1418	<u> </u>			
	Weight(Kg)	(	280	330	470	590	780	1030	1320	1490			

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

## Specifications

	Mode		ANFS350A(F)	ANFS450A(F)	ANFS550A(F)	ANFS650A(F)				
	Capaci	ty	350kVA	450kVA	550kVA	650kVA				
Input	Voltage, Fre	quency	3-phase 4-wire	+ PE. Phase voltage: 220V±33	V, line voltage: 380V±57V, 50/6	0Hz±3Hz				
	Mode	ğ.	3 phase star	ndard mode,3 phase independ	ent mode, 3 phase unbalanced r	node				
	Voltage	e	Automatic state: (low-	grade) 0.0 ~ 150.0V, (high-grade	e) 150.1~300V; high-grade lock	c:0.0 ~ 300.0V				
	Frequen	су		40.00 ~240.	00 Hz					
	3 phase	110V	1060A	1363A	1666A	1970A				
	standard mode rated current	220V	530.3A	681.8A	833.3A	984.8A				
	3 phase inde-	110V	1060A	1363A	1666A	1970A				
	pendent mode rated current	220V	530.3A	681.8A	833.3A	984.8A				
	Setting	Voltage	Resolution	on: 0.1V, accuracy: 0.2%×rea	ading value +0.2%×full scale value	ie				
	accuracy	Frequency		Resolution: 0.01Hz, a	accuracy: 0.05%					
		Voltage	Resolution	on: 0.1V, accuracy: 0.2%×rea	ading value +0.2%×full scale valu	Je				
	Testing	Frequency		Resolution: 0.01Hz, a	accuracy 0.05%					
	accuracy	Current	Resolution	1: 0.1A/1A, accuracy 0.3%×r	uracy: 0.05%  ding value +0.3%×full scale value  5%×reading value +0.45%×full scale value					
		Power	Resolution 0.1kW	//0.01kW/0.001kW, accuracy	0.45%×reading value +0.45%×fu	ıll scale value				
Output	Frequency s	tability		≤0.02%	6					
	Voltage dist	ortion		Linear load T	HD < 1%					
	Transient recovery time		20ms							
	Three phase phas	e difference	Three phase standard	mode: 120°±2°   Three-phase	unbalanced mode: 0.0°~359.9°	, 0.1° adjustable				
	Crest fac	tor		1.41±0.	1					
	Source voltag	e effect		≤1%	ı					
	Load effi	ect		≤1%						
	Overload ca	pacity			0% < output≤200% the output w 300% < output the output will be					
	Protection	mode			at, Input under voltage, Input					
	Display mod	e;Start	8 inch	LCD display, resolution: 800*	600; Soft-start time:0.0 ~ 99.9s					
	Online adjustme	nt function	In the nor	mal mode, the output voltage an	nd frequency can be adjusted onl	ine				
Func-	Memory fur	nction	Powerd	lown memory function, memory shortcut group:	last output mode and parameter	s;				
	Line voltage crop o	omnoneation		0.000 ~ 0.5	ERG. UI					
	Communic		Standard	. H.SHENMAR SHIDD DV MARHOUSED DAY	SPIB、Ethernet、Analog control	nort				
nviron-	5.500.000	20 HAR	Standard:	27 ft 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	ALTERNATION IN TO 1	port				
ment Temperature and humidity 0~40 C; 20~90%RF						n) ×1900×1400				
Dimensions (W×H×D mm) 1800×2000×1400 2400×2000×1400 3000 (1400+1600) ×1900×1400										

AC Power Supply



## Exceeding & Trustworthy

## AC Power Supply \\ Ainuo

# Programmable High Power AC Power Supply ANFP(F) Series



## Product Introduction

The ANFP(F) series Programmable High Power AC Power Supply adopts FPGA digital control, instantaneous waveform control and high-frequency pulse width modulation (SPWM) technologies. It has the advantages of fast response speed, high output accuracy, and superior waveform quality; it can withstand 3 times the rating Current impact capability, strong load adaptability; with multiple output modes and complex programmable functions, which can achieve test requirements such as ladder, step, gradual change, etc.; with three-phase unbalanced output mode, to achieve relevant regulatory tests or simulate special power grids And so on. It can be widely used in laboratories, quality inspection units, scientific research institutes and certification centers.

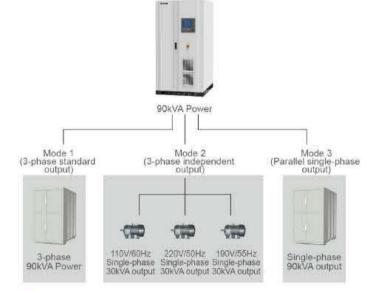
#### Features

- Adopt FPGA digital technology, realize accuracy control and high quality sine wave output;
- Advanced power management mode: three-phase standard mode, three-phase unbalanced mode (three-phase voltage can be adjusted independently, phase difference 0~359.9° adjustable), three-phase independent mode (three-phase voltage, frequency, can be adjusted independently) Parallel single-phase mode (three-phase parallel, single-phase output);
- Programmable step, stage, varations function, can realize relevant regulations;
- Harmonic function, 2-40 times superposition;
- Operating in over current shock (up to 3 times of rated current)within 2s, start the impact load of 1/3 capacity of power supply directly;
- Adjustable voltage and frequency during output status, frequency change without transit time;

- Measurement: voltage, current, current peak, frequency, active power, apparent power, power factor, voltage peak factor;
- Online monitoring: monitor IGBT temperature, transformer temperature, fan speed, input voltage and other parameters during output status;
- Operating data recorders: keep the record of power supply status and alarm code automatically during alarming, save the maintenance time:
- Fan speed will be adjustable automatically with the temperature of power supply to reduce the noise;
- Lock key, user-friendly design, automatically locking without operation for 5 minutes to prevent from operation mistakes:
- Combination cabinet, 8" large-screen color LCD;
- Standard RS232, optional RS485, GPIB, Ethernet, analog control and other remote communication/control.

#### Applications /

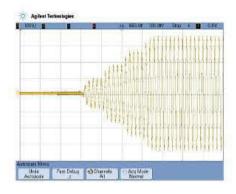
Output mode management (standard three-phase output, separated three-phase output, parallel single-phase output)

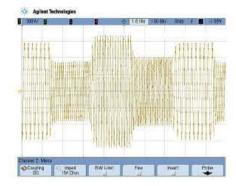


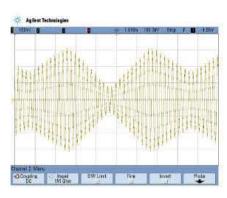
Over shock capacity: impact load of 1/3 capacity of power supply directly without soft start;



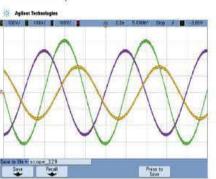
Programmable Output(Step, Stage, Varations)



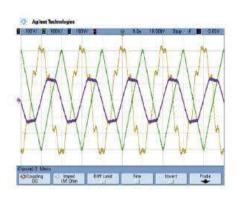




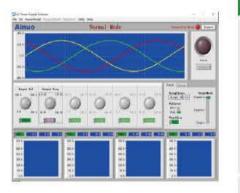
Three-phase unbalanced output (amplitude unbalance + angle unbalance)



Harmonic



PC control software



Large-size color LCD, digital key input, knob operation







## Ainuo

## Specifications

	Model		ANFP015A(F)	ANFP030A(F)	ANFP045A(F)	ANFP060A(F)	ANFP090A(F)	ANFP120A(F)	) ANFP180A(F)	ANFP240A(
	Capacity		15kVA	30kVA	45kVA	60kVA	90kVA	120kVA	180kVA	240kVA
Input	Voltage, Freq	uency		3-phase 4-w	ire + PE, Phase	voltage: 220V	±33V, line voltag	e: 380V±57V,	50/60Hz±3Hz	
	Model		3 pha	se standard mod	le, 3 phase unba	lanced mode, 3	B phase indepen	dent mode, par	allel single phase	e mode
	Voltage		Phase voltage	e: 0.0 ~ 300.0V,	Automatic state: (	low-grade) 0.0 ~	- 150.0V, (high-gr	ade) 150.1~300	V; high-grade loc	k:0.0 ~ 300.0
	Frequenc	v		ACCOUNT NO POSITIONS		40.00 ~2	240.00 Hz			******
	Co. Log S (PM - District Strict Law)					507 # 507 4 3				
	3 phase standard / 3 phase unbalanced	110V	45.4A	90.9A	136.3A	181.8A	272.7A	363.6A	545.4A	727.2A
	mode rated current	220V	22.7A	45.4A	68.2A	90.9A	136.3A	181.8A	272.7A	363.6A
	3 phase independen	110V	45.4A	90.9A	136.3A	181.8A	272.7A	363.6A	545.4A	727.2A
	mode rated current	220V	22.7A	45.4A	68,2A	90.9A	136.3A	181.8A	272.7A	363.6A
	Parallel single-phase	110V	136.3A	272.7A	409.1A	545.4A	818.2A	1090.9A	1636.4A	2181.8A
	mode rated current	220V	68.2A	136.3A	204.5A	272.7A	409.1A	545.4A	818.2A	1090.9A
	Setting	Voltage		Reso	olution: 0.1V, a	ccuracy: 0.2%	×reading value+	0.2%×full scale	value	
	accuracy	Frequency			Res	olution 0.01H	z, accuracy 0.	.05%		
	2	Voltage		Reso	olution: 0.1V, a	ccuracy 0.2%	×reading value+	-0.2%×full scale	value	
	Testing	Frequency		11020	Res	olution 0.01H	z, accuracy 0.	.05%		
Output	accuracy	Current		Resolu	ution 0.1A/1A,	accuracy: 0.3	%×reading value	e+0.3%×full sca	le value	
		Power		Resolution 0.	1kW/0.01kW/0.0	01kW, accurac	cy 0.45%×read	ding value+0.45	%×full scale valu	ie
	Frequency sta	ability				≤0.	02%			
	Voltage disto					Linear load	: THD < 1%			
	Transient recove	245				40/1	)ms			
					3	phase standar	d mode: 120°±2	2°		
	3 phase phase d	fference					0.0°~359.9°, (			
	Crest factor	or					1±0.1	1015 3117 1017 1017 1017		
	Source voltage	55 45					1%			
	Load effec						1%			
		01-	105% < Outpu	t≤110% the out	out will be stoppe	ed within 15 Sec	::110% < Output	≤200% the out	put will be stopp	ed within 5 Se
	Overload cap	acity							will be stopped in	
	Protection m	ode					0.00	957	Input over volta it, output over o	·
	Display mo	de			8 inch LCD disp	olay, resolution:	800*600; Soft-	start:0.0 ~ 99.9s	<b>S</b> ()	
	Output wave	form			Sine wave, ha	rmonic (superp	osition 2~40 sec	cond harmonic)		
		step mode				9999	9 step			
unc- tion		tage mode				100 stage 9	999999 cycle			
HOIT	function Var	ations mode				100 stage9	99999 cycle			
	Online adjustmen	t function	Under no	rmal mode, the	output voltage an	d output freque	ncy can be adju	sted online, whi	ich can be switch	ned on line.
	Memory function/ Sh	ortcut group		Power do	wn memory func	tion, memory la	st output mode :	and parameters	; 10 groups	
	Line voltage crop co						0.500Ω			
	Communica	er den de ser tieben	RS232	( standard)、RS	485 (options)	GPIB ( options	). Ethernet ( or	otions ) . Analo	og control port (	options )
nviron-	Temperature/ H	KTROCK/ASS I /	TATE OF THE	2011 P. C. 1975 (1975) P. C. 1975 (1975)		The American Co.	20~90%RH	ocean de colo como com de Seculo Colo		- such this to de Tul
ment	Dimensions (W×H×D	18		1000×1990×800	)		1990×800		1200×1990×100	0
		-37							-	15

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

## Specifications

	Model		ANFP350A(F)	ANFP450A(F)	ANFP550A(F)	ANFP650A(F)
	Capacity		350kVA	450kVA	550kVA	650kVA
Input	Voltage, Frequ	uency	3-phase 4-wir	e + PE, Phase voltage: 220V±	33V, line voltage: 380V±57V, 50	0/60Hz±3Hz
	Mode		3 phase s	tandard mode, 3 phase unbala	nced mode, 3 phase independen	t mode
	Voltage		Phase voltage: 0.0 ~ 300.0V, A	utomatic state: (low-grade) 0.0 ~	150.0V, (high-grade) 150.1~300V;	high-grade lock:0.0 ~ 300.0V
	Frequenc	,		40.00 ~24	40.00 Hz	
	54 TC 11 TO					
	3 phase standard /	110V	1060A	1363A	1666A	1970A
	3 phase unbalanced					
	mode rated current	220V	530.3A	681.8A	833.3A	984.8A
	3 phase independent	110V	1060A	1363A	1666A	1970A
	mode rated current	220V	530.3A	681.8A	833.3A	984.8A
	Setting	Voltage	Resolu	ution: 0.1V, accuracy: 0.2%×	reading value +0.2%×full scale v	/alue
	accuracy	Frequency		Resolution: 0.01Hz	, accuracy 0.05%	
		Voltage	Resolu	ution: 0.1V, accuracy: 0.2%×	reading value +0.2%×full scale v	value
Output	Testing	Frequency		Resolution: 0.01Hz	, accuracy: 0.05%	
2000 100	accuracy	Current	Resolut	on: 0.1A/1A, accuracy: 0.3%	×reading value +0.3%×full scale	value
		Power	Resolution: 0.1	kW/0.01kW/0.001kW <sub>±</sub> accurac	y: 0.45%×reading value+0.45%	×full scale value
	Frequency sta	bility		≤0.0	2%	
	Voltage disto	rtion		Linear load;	THD < 1%	
	Transient recove	ry time		20r	ns	
		working and a		3 phase standard	mode: 120°±2°	
	3 phase phase di	nerence		3 phase unbalanced mode: 0	0.0° ~ 359.9°, 0.1°adjustable	
	Crest factor	DE.		1.41	±0.1	
	Source voltage	effect		≤1	%	
	Load effec	t		<b>≤</b> 1	%	
	Overload cap	acity	TO SHARE THE PROPERTY OF THE P	tput will be stopped within 15s; utput will be stopped within 2s;	110% < Output≤200% the output v 300% < Output the output v	out will be stopped within 5s;
		100	IGBT overheat, IGB	T over current. Transformer of	verheat, Input under voltage, Ir	nput over voltage
	Protection m	ode			e. Output over load. Output she	
	Display mo	de		8 inch LCD display,	resolution: 800*600	-
	St	ep mode		9999	set	
	Programming Sta	ige mode		100 stage 9	99999 cycle	
Func- tion	function Vara	tions mode		100 stage99	99999 cycle	
	Online adjustment	function	Under normal mode, the ou	tput voltage and output frequer	ncy can be adjusted online, which	n can be switched on line.
	Memory function/ Sh	ortcut group	Power down	n memory function, memory las	t output mode and parameters;	10 groups
	Line voltage crop co	mpensation		0.000 ~	0.500Ω	
	Communicat	tion	RS232 (standard), RS-	485 (options), GPIB (options	)、Ethernet ( options) 、Analog	control port ( options )
Environ- ment	Temperature/Hu	umidity		0~40℃; 2	0~90%RH	
	Dimensions (W×H×D	mm)	1800×2000×1400	2400×2000×1400	3000 (1400+160	0) ×1900 ×1400
	Weight (Kg)		2730	3150	4270	4660

## AC Power Supply \\ Ainuc

## Programmalbe AC Test Power Supply AN61(F) Series





The AN61(F) Series Programmable AC Test Power Supply adopts SPWM technology, digital processing technology and high-power switching power supply technology, and it can output AC, DC, and AC+DC power supply, providing precise power input for AC load, DC load, rectifier load, etc. With the ability to provide 3-4 times peak current, it is the best test instrument for measuring surge current and can set waveform switch-on and switch-off angles for testing surge current and output maintenance time. It can also set the rate of change of voltage and frequency to scan the range of power input specifications for the object to be tested. The power supply can simulate abnormal instantaneous rise, drop, short circuit, jitter and other phenomena in the power grid, and simulate distortion of the mains power waveform through harmonic or interharmonic overlay functions. It can also provide accurate and fast measurement of power parameters and harmonics. The AN61(F) Series Programmable AC Test Power Supply has excellent power output quality and is widely us. ed in power electronics, military, aviation electronics, IEC standard tests and other industry laboratories and production lines

The AN61(F) Series Programmable AC Test Power Supply has powerful programmable functions and can complete IEC61000-4-11 (pre-certification test)/-4-13/-4-14/-4-28 regulatory immunity tests. In addition, with programmable output impedance, it can be combined with a power analyzer to achieve IEC 61000-3-2/-3-3 harmonic current limitation and flicker regulatory tests, making it the best choice for IEC regulatory tests.





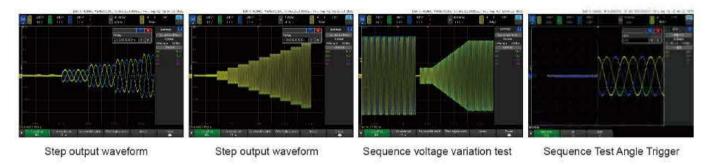
#### Features

- It has advanced SPWM technology, DSP and FPGA digital processing technology and high-power switching power
- It has output modes include AC, DC, and AC+DC;
- It provides programmable output impedance for IEC61000-3-3 tests;
- It provides voltage and frequency variation tests for IEC61000-4-11, IEC61000-4-14, and IEC61000-4-28;
- It provides harmonic and sub-harmonic waveform synthesis tests for IEC61000-4-13:
- It provides high output peak current for ideal surge current testing:
- It has the pulse output function for voltage dip tests and simulating interference in actual grids;
- It has a step output function, and the step test mode provides a simple automatic switching function to change the output voltage, which changes in a step-like manner instead of gradually;
- It has the sequence output function and the output waveform in the sequence test mode is a combination of all configured serial numbers. Users can edit the required output voltage sequence based on their needs;
- It provides external analog signal input interface for power amplification of external input signals; (available in 615 and 618 Series only)
- It features an LCD, small size, and lightweight, meeting the requirements for standard cabinet installation;
- The 615 and 618 Series is equipped with RS232 communication interface as standard, with optional RS485, GPIB, and Ethernet communication interfaces;
- The AN619(F) Series is equipped with RS485 and Ethernet communication interfaces as standard, with optional RS232 and GPIB communication interfaces.

#### Applications

#### Analog power supply input interference

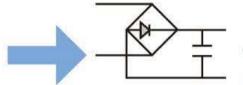
Through pulse, step, sequence, and other output modes, it can simulate arbitrary output waveforms in single-step or continuous mode, simulating grid fluctuations and interference for testing the DUT (device under test).



#### Switching power supply surge current test

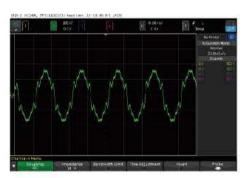
By setting startup and stop angles and providing up to 3-6 times peak current output capability through the output waveform, the AN61 Series Power Supply is an ideal device for testing switching power supply surge currents.

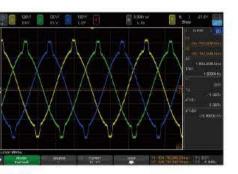




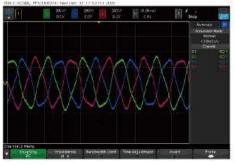


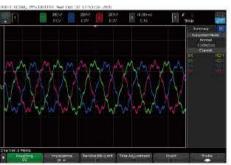
■ Harmonic and interharmonic synthesis (available in 615 and 619 Series only)
Can superimpose 2-40 harmonics and interharmonics for more comprehensive harmonic simulation tests.





Harmonic output waveform

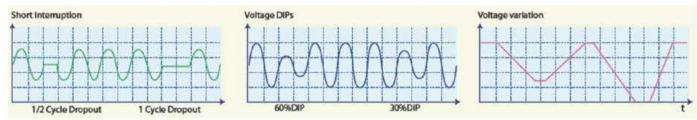




Interharmonic output waveform

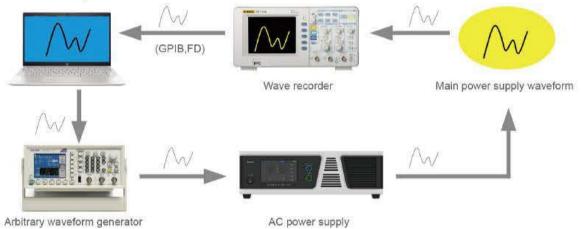
#### ■ IEC regulatory test

The power supply can output test voltages that meet IEC test conditions. The upper computer software also includes the test process for relevant IEC regulations, making it convenient for customers to quickly set up and use.



#### Arbitrary waveform amplification (available in 615 and 618 Series only)

The AN61(F) Series Programmable AC Test Power Supply can amplify any waveform through an external port. Customers can record the actual waveform on-site using a waveform recorder; send it to the external port of the AN61 power supply for amplification using a waveform generator, thereby achieving a realistic simulation of using the actual on-site waveform to test the DUT (device under test).



#### Computer control software







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		Description	4-1	Net	100	WHITE	INSTANCES
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		710.750		no service and	Tale broad	Seems	d import
			100	man man	Teles Colons	Magerman	
		E + ++ +0	- 100	10.000.00000	200	Netwo	
Salar Salar Salar				101700-101700	100 100		Expor
Interior Reservices	100			PE 100 - St. COM	200 0.00	Phase California	
testamental				ALCOHOL: SALES		Inelife	Danislas Data
District Country				Ni nee Goola	100	Hum Count 10	
THE PROPERTY.							No Deliver
	ers betreen			10 00 000			1000
1000				111001	77		

			Model	AN615 00S-350(F)	AN615 01S-350(F)	AN615 02S-350(F)	AN615 04S-350(F)	AN615 06S-350(F)	AN618 00S-350(F)	AN618	AN618 02S-350(F)	AN618 04S-350(F)	AN618 06S-350(	
		Power s	upply capacity	500VA	1000VA	2000VA	4000VA	6000VA	500VA	1000VA	2000VA	4000VA	6000VA	
AC		N	/oltage	single-	90 ~ 250V	rire +PE	198-	Voltage: -250V	single	90 ~ 250V phase two-w	vire +PE	198	Voltage: -250V	
Input				NAME OF STREET	Tourseason .	I SOUNT NEWS	12000000000	1-wire +PE	CONTRACTOR OF THE PARTY OF THE		The sources	F. (1812-1812) (5	4-wire +PI	
mpar		C	Current	8A Max @90V	16A Max @90V	28A Max @90V	18A Max @198V	25A Max @198V	8A Max @90V	16A Max @90V	28A Max @90V	18A Max @198V	25A Ma @198V	
		Fr	equency				(	47	63Hz					
		Pow	er factor #1		≥0.97		≥0	.98		≥0.97		≥(	).98	
		500000000	se number				·	Singl	e-phase				12-12-17-17-11-1	
	Total Power		500VA	1000VA	2000VA	4000VA	6000VA	500VA	1000VA	2000VA	4000VA	6000VA		
			Gear range	Low grade: 0.0 ~175.0V, High grade: 0.0 ~350.0V; Low gear/high gear/automatic gear										
			Resolution	0.01V										
	Vo	oltage	Accuracy		0.2%+0.2%F.S.									
10.25		8	Distortion #2				0.3%	@50/60Hz;	1%@15~	1000Hz				
AC			Source voltage effect #3					≤(	0.1%					
Output			Load effect #4					≤(	0.2%					
		Effective value	0-175V	5A	10A	20A	40A	60A	5A	10A	20A	40A	60A	
	Current /phase	range	0-350V	2.5A	5A	10A	20A	30A	2.5A	5A	10A	20A	30A	
	AFRONSONO.	Peak value	0-175V	20A	40A	80A	160A	240A	20A	40A	80A	160A	240A	
		range	0-350V	10A	20A	40A	80A	120A	10A	20A	40A	80A	120A	
	Free	quency	Range/Resolution /Accuracy 15~1000Hz, 0.001Hz, 0.15%											
			Power	250W	500W	1000W	2000W	3000W	250W	500W	1000W	2000W	3000W	
2000000	Vo	oltage	Ger range-Resolution/Accuracy	-	247.5V~247	.5V. high ge	ar: -495.00V	~495.00V;	Low gear/hi	gh gear/auto	matic gear/0	- MIGURISTS	175,70,000,716	
DC Output	04304	AUDIO DO DAD	-247.5~247.5V	2.5A	5A	10A	20A	30A	2.5A	5A	10A	20A	30A	
or angent	Cı	urrent	-495.0~495.0V	1.25A	2.5A	5A	10A	15A	1.25A	2.5A	5A	20A 10A	15A	
	Vo	oltage	Range/Resolution /Accuracy *5			AC	: 350.00V,	DC: 495.0	00V; 0.01V	, 0.2%+0.29	%F.S.		3	
1			Range	24A	48A	96A	160A	240A	24A	48A	96A	160A	240A	
Measure -ment	1	9000000	Resolution			375555		0	.01A				50000000	
accuracy	Ci	urrent	Effective value accuracy*6					0.4%+	0.6%F.S.					
			Peak value accuracy*6					0.4%+	0.6%F.S.					
	Р	ower	Resolution/Accuracy *7					0.01W; 0.	4%+0.6%F.	S.				
	Dis	splay/Wa	veform selection	5-i	nch color tou	ıch screen L	.CD/Sine wa	ve, square v	vave, clippe	d sine wave	, 30 sets of b	uilt-in wavet	orms	
	Star	t-stop an	gle/Knob function/	40.00	0-359.9	°/Knob adju	stment avail	able for con-	ventional mo	ode voltage a	and frequenc	y settings	YARADA DO	
	Prog	rammable	e output impedance					/0Ω+0µH	~1Ω+1mH					
		Ha	rmonics			2~40 times		11 - 22 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1			None			
Fun-	Harmoni	ic and interha	armonic simulation bandwidth			2400Hz	2:				None			
ction	2440000000	Sequ	ence mode		100 steps wi	th 9,999 loo	ps. Voltage,	frequency, a	nd phase a	ngle can be	programmat	ically output	ted	
		Pul	se mode								y, and angle			
		Ste	ep mode		9.999 loops.						and frequen	2.	98	
	C	Online reg	julation function								nd the wavefo		900	
		3.7	tion/Communication interface	- 1/2/05/5/2017/2017							nal), GPIB (option	Administration of the second	macatales and	
			ote control			and and and		nalog contro		estante de la companie de la compani	, or 12 (open	an and Caronia	(opasias)	
Working environment		0226	ature/Humidity						30~90%RH	20/10:51/				
er remove emercial	-		*8 /Protection	≥92%/Input abnormality, bus overvoltage, output overvoltage and undervoltage, output overcurrent, output overload, and module overheating										
		95	Height	3U 5U 3U 5U										
Shape			nensions	432×134×630 432×222×640 432×134×630 432×222×64										
	7	(W×	H×D mm)		es not include the	suspension ear, a	and the width of su he depth does no	spension ear is 2 tindude the hand	4mm; The height	does not include to of the handle is 50	he feet, the feet an	e detachable and	15mm in height	
		We	ight (Kg)		≤21		5	40		≤21		5	40	

## Specifications

		Model		AN61903S	AN61905S	AN61906S	AN61910S	AN61912S	AN61915S	AN61920S			
	D	ENVIRONMEN	COMMIT	-350(F)	-350(F)	-350(F)	-350(F)	-350(F)	-350(F)	-350(F)			
	Power	supply capa	acity	3000VA	5000VA	6000VA	10000VA	12000VA	15000VA	20000VA			
	C.100	Voltage	ń.		224 44		342V-480V; 3-p	17.4777-757	504.84	CEA 14			
AC		rent(@342V	')	15A Max	22A Max	25A Max	39A Max	40A Max	50A Max	65A Max			
input		requency ver factor *1	1				47~63Hz						
	10000				0' 1 1	6. 1	≥0.98	6' 1 1	60 1 1	0 1			
	NPI	nase numbe	ır	Single-phase	Single-phase	Single-phase	Single-phase	Single-phase	Single-phase	Single-phase			
	5 6	Power		3000VA	5000VA	6000VA	10000VA	12000VA	15000VA	20000VA			
	1		inge				0.00~350.00\	V:					
			olution				0.01V						
		1.072	cision			72.22	0.1%F.S.						
	Voltage		rtion #2			0.3%	@50/60Hz; 1%@	30-100Hz					
1975		D-00,000,000,000,000	effect #3		≤0.02%								
AC		1,000,000,000	effect #4				≤0.02%						
Output	Current/phase		ralue range	35A	35A	35A	60A	70A	120A	120A			
			lue range	105A	105A	105A	180A	210A	360A	360A			
	5200070070070000		nge				30.000~100.000	)Hz					
	Frequency		olution				0.001Hz						
		Acci	uracy				0.01%						
	Power	Ra	inge	3000W	5000W	6000W	10000W	12000W	15000W	20000W			
		Ra	ange				-495.00~495.0	0V					
DC	Voltage	Reso	olution				0.01V						
output		Accu	uracy				0.1%F.S.	Law law a					
	Current	Rai	nge	35A	35A	35A	60A	70A	120A	120A			
		Rai	nge			9	AC: 350V; DC: 49	5.00V					
	Voltage	Reso	olution				0.01V						
		Accur	acy *5				0.1%F.S.						
leasur		-	Effective valuePeak	35A	35A	35A	60A	70A	120A	120A			
ement		Range	Peak value	105A	105A	105A	180A	210A	360A	360A			
uracy	Current	Reso	olution	105010			0.01A						
uracy		Effective valu	ue accuracy*6				0.2%F.S.						
		CONTRACTOR STREET, STR	accuracy*6				0.5%F.S.						
	400000	Reso	olution				0.01W						
	Power	Accur	acy *7				0.3%F.S.						
		Display				5-in	ch color touch scr	een LCD					
	Wave	form selecti	ion	Sine wave, triar	ngle wave, squar			CHECK THE CHECK THE COLUMN TWO COLUMN TO THE CHECK THE C	rms, and 6 sets of	custom wavefor			
	Sta	rt-stop angle	9			N. C. STONE STATE OF THE STATE	0-359.9°		ALISK PUIS S. A. S. P. S. P. S.				
	-017.000	ob function	9		Knob adjust	ment available fo	r conventional mo	de voltage and fro	equency settings				
		peration fur					parallel operation		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
		armonics					2-50th	To the same					
Fun-	Harmonic and interl	AND AND AND ADDRESS OF THE PARTY OF THE PART	ation bandwidth				3000Hz						
ction	THE COUNTY OF THE COUNTY OF THE COUNTY	uence mode			stens with 9 999	loons Voltage fro		se angle can he n	rogrammatically ou	itnutted			
	11.000	ulse mode	78/2	200	100000000000000000000000000000000000000		ges in voltage an	200 100 100		прилоч			
		step mode		0.00					and frequency step	value			
		ne regulatio	n'						d the waveform can l				
		p compensa	797	Orider the corn			minals that allow i			De Syrita lea Orini			
	The second contract of	nication inte	ntelepolic .	DC495 /	AND DESCRIPTION OF THE PARTY OF					P (antional)			
		note control		K5465 (	standard), ⊏tnerr	iet (standard), syr	120	ai (standard), RS.	232 (optional), GPI	b (optional)			
NESSEE STATE	-		9:				None						
Working		mperature					0~40°C						
vironmen		-lumidity					30~90%RH						
	Efficience	1000					≥92%	577 C 1985 C 1975 C					
	Protec			Input abnormality	, bus overvoltage,	output overvoltage	and undervoltage,	output overcurrent,	output overload, and	module overhea			
		Height			121 121 -1	1.124	17.22 122	122 .22					
				432×175×700	432×175×700	432×175×700	432×175×735	432×175×700	432×175×735	432×175×73			
Shape		mensions H×D mm)		The height of 1 The depth of 70	75mm is without 00mm/735mm is	feet, with feet the	height is 188mm.	The feet are deta	les the width is 480 achable. protective parts, th				
	1000	40.0		terminals is 779	and the second second			322	.225				
	Weight	(Kg)		≤25	≤25	≤25	≤26	≤35	≤38	≤38			

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

## Specifications

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		140		AN61906A	AN61909A	AN61912A	AN61915A	AN61918A	AN61920A	AN61925A	AN61930A		
		Model		-350(F)	-350(F)	-350(F)	350(F)	-350(F)	-350(F)	-350(F)	350(F)		
Power supply capacity			6000VA	9000VA	12000VA	15000VA	18000VA	20000VA	25000VA	30000VA			
	9	Voltage	2000		5000 1 may 20	** ** ** ** ** ** ** ** ** ** ** ** **	ltage: 342V-480		A PART OF THE PART	/			
AC	Current(@342V)			20A Max	25A Max	30A Max	35A Max	40A Max	45A Max	55A Max	65A Max		
input		equency		47~63Hz									
		er factor *1		≥0.98  Three-phase & single-phase									
	Phase number Total power		6000VA	9000VA	12000VA	15000VA	single-phase 18000VA	20000VA	25000VA	30000VA			
	Power Per phase power		The state of the s	2000VA	3000VA	4000VA	5000VA	6000VA	6667VA	8333VA	10000VA		
	-	Range		2000 V/	3000 17	4000 1/4		200000000000000000000000000000000000000	000774	000047	10000174		
		Resolution		0.00~350.00V 0.01V									
	A.C. B	Precision		0.1%F.S.									
	Voltage	Distortion *2		0.3%@50/60Hz; 1%@30-100Hz									
AC		Source effect #3		≤0.02%									
Output		Load effect #4		≤0.02%									
		principalismonialists to temperate	Three-phase mode		35A	35A	35A	35A	60A	60A	60A		
	Current/phase	Company of the Compan	Single-phase mode	10000000	105A	105A	105A	105A	180A	180A	180A		
			Three-phase mode		105A	105A	105A	105A	180A	180A	180A		
			Single-phase mode	315A	315A	315A	315A	315A	540A	540A	540A		
	Frequency	Range Resolution		30.000~100.000Hz 0.001Hz									
	rioqueticy	Accuracy						11%					
		Total power		6000W	9000W	12000W	15000W	18000W	20000W	25000W	30000W		
	Power		er channel	2000W	3000W	4000W	5000W	6000W	6667W	8333W	10000W		
-		Range		1.731236-32.0	1 1000000000000000000000000000000000000	1	-495.00-	-495.00V	1	111			
	Voltage	Resolution					0.0	)1V					
output	1990	Accuracy					0.19	6F.S.					
	Current	Range	Single channel	35A	35A	35A	35A	35A	60A	60A	60A		
	Current	rtungo	Parallel connector	105A	105A	105A	105A	105A	180A	180A	180A		
	2/0/20	Range		AC: 350V; DC: 495.00V									
	Voltage	Resolution Accuracy 45		0.01V									
Megeur		Accur	Process and the second	4054	10E A	1054		6F.S.	1004	1004	1904		
	Current	Range	Peak value	105A 315A	105A 315A	105A 315A	105A 315A	105A 315A	180A 540A	180A 540A	180A 540A		
		Resc	olution	3134	313A	3134		)1A	340A	340A	340A		
-uracy		Effective value accuracy ***											
		Peak value accuracy #6											
	Davios	Resolution		0.01W									
	Power Accuracy #/		0.3%F.S.										
	Display			5-inch color touch screen LCD									
	Waveform selection			Sine wave, triangle wave, square wave, clipped sine wave, 30 sets of built-in waveforms, and 6 sets of custom waveforms									
ement acc	13000	-stop angle		0-359.9°									
	Knob function			Knob adjustment available for conventional mode voltage and frequency settings									
	Parallel operation function  Harmonics			Can achieve parallel operation of multiple units 2-50 times									
		Harmonic and interharmonic		77 C ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (									
ction	simulation bandwidth			3000Hz									
	Sequence mode			200 steps with 9,999 loops. Voltage, frequency, and phase angle can be programmatically outputted									
	Pulse mode			9,999 loops. Cyclic changes in voltage amplitude, frequency, and angle									
	Step mode			9,999 loops. Change the voltage frequency according to the set voltage and frequency step values									
	Online regulation function			In Common mode, the output voltage/frequency can be adjusted online, and waveforms can be switched online									
	Line drop compensation			Under the conventional mode, the output voltage and frequency can be adjusted online, and the waveform can be switched online									
	Communication interface			RS485 (standard), Ethernet (standard), synchronous signal (standard), RS232 (optional) and GPIB (optional)									
VIX.	Remote control None												
Working environment													
ativisati incati	200,000	lumidity											
	Efficiency **  Protection			≥92% Input abnormality, bus overvoltage, output overvoltage and undervoltage, output overcurrent, output overload, and module overheating									
	Height			Imput abnormality, bus overvoltage, output overvoltage and undervoltage, output overcurrent, output overload, and module overheating  4U									
		Dimensions			432×175×700 432×175×700 432×175×700 432×175×700 432×175×701 432×175×705 432×175×735 432×175×735								
Shape	Dir				The width of 432mm is the standard 19-inch chassis size without handles, with handles the width is 480mm.								
- rupo	(W×	H×D mm)		The height of 175mm is without feet, with feet the height is 188mm. The feet are detachable.									
	100.00			The depth of 700mm/735mm is the front and rear panel size excluding terminals and protective parts, the depth including terminals is 779mm/814mm.									
	Weight	(Ka)		serminais is 77	9mm/6 (4mm. ≤45	≤45	≤45	≤45	≤52	≤52	≤52		
	roigist	1. 191		(T) (T)	U.S. (1997)	100000000000000000000000000000000000000		25 F M M M M M M M M M M M M M M M M M M	11.60 707	will not be noti			

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## AC Power Supply \\ Ainu

## Specifications

		Model		AN61950B-350(F) A	N61960B-350(F)	AN61975B-350(F)	AN61990B-350(F)	AN619100B-350(F)	AN619120B-35			
	Power	supply capa	city	50kVA	60kVA	75kVA	90kVA	100kVA	120kVA			
		Voltage		10000000	Lir	voltage: 342V-480	OV; 3-phase 3-wire +f	PE				
40	Curr	ent(@342V)	(	110A Max	130A Max	165A Max	195A Max	220A Max	260A Max			
2000	-	requency			— www.company.com.l.	47~	63Hz	- AMERICAN AND AND AND AND AND AND AND AND AND A				
		ver factor *1		≥0.98								
	Pha	ase number		Three-phase& Single-Phase								
	D-675	STREET ATTACKS A	power	50kVA	60kVA	75kVA	90kVA	100kVA	120kVA			
	Power	Per phase power		16.66kVA	20kVA	25kVA	30kVA	33.33kVA	40kVA			
		Range		0.00~350.00V								
		Resolution		0.00 ~350.00V								
	Voltage	Accuracy		0.1%FS.								
		Distortion #2		0.3%@50/60Hz; 1%@30-100Hz								
۸.		Source effect #3		0.3%@50/60Hz; 1%@30-100Hz ≤0.02%								
and Control of the Control		Load effect #4		\$0.02% ≤0.02%								
				120A	120A	180A	180A	240A	240A			
			Single-phase mode	360A	360A	540A	540A	720A	720A			
	Current		Single-phase mode Three-phase mode									
		1000000	Single-phase mode	360A	360A 1080A	540A	540A 1620A	720A	720A			
		range	DESCRIPTION OF THE PROPERTY OF	1080A	IUUUA	1620A		2160A	2160A			
	22.000 (N ) (N ) (N ) (N )	Range		30.000~100.000Hz								
	Frequency	Frequency Resolution					01Hz					
			uracy				01%		70000000			
	Power	Total power		50kW	60kW	75kW	90kW	100kW	120kW			
	N74000271	Power per channel		16.66kW	20kW	25kW	30kW	33.33kW	40kW			
DC		Range		-495.00~495.00V								
output	Voltage	Resolution		0.01V								
		Acc	uracy	-	-	0.19	%F.S.		1			
	Current	Range	Single channel	120A	120A	180A	180A	240A	240A			
	Gunerit	1	Parallel connection	360A	360A	540A	540A	720A	720A			
	Voltage	Range		AC: 350V; DC: 495.00V								
		Resolution		0,01V								
	90	Accuracy #5		0.1%F.S.								
deasur		Range	Effective value	360A	360A	540A	540A	720A	720A			
2000		Kange	Peak value	1080A	1080A	1620A	1620A	2160A	2160A			
25665	Current	Reso	olution			0.	01A					
22		Effective value accuracy #6		0.2%F.S.								
		Peak value accuracy **		0.5%F,S.								
Ī	920	Resolution		0.01W								
	Power	Accuracy **		0.3%F.S.								
		Display				5-inch color to	uch screen LCD					
	Waveform selection		Sine wave, triangle wave, square wave, clipped sine wave, 30 sets of built-in waveforms, and 6 sets of custom waveforms.									
Ī	Start-stop angle			0-359.9°								
	Knob function			Knob adjustment available for conventional mode voltage and frequency settings								
Ī	Parallel operation function			None								
2022	Harmonics			2-50th								
Fun-	Harmonic and interharmonic			10 (10 to 10								
ction				3000Hz								
	simulation bandwidth			200 steps with 9,999 loops. Voltage, frequency, and phase angle can be programmatically outputted								
ł	Sequence mode			9,999 loops. Cyclic changes in voltage amplitude, frequency, and angle								
	Pulse mode			9,999 loops. Change the voltage frequency according to the set voltage and frequency step values								
1	Step mode			Under the conventional mode, the output voltage and frequency can be adjusted online, and the waveform can be switched online.								
	Online regulation function			The device has Sense terminals that allow remote sampling compensation								
	Lead drop compensation			RS485 (standard), Ethernet (standard), synchronous signal (standard), RS232 (optional) and GPIB (optional)								
	Communication interface			RS485 (standar	a), Ethernet (stand			≥3≥ (optional) and (	SHIB (optional)			
OF IT		note control					one					
Working	1	mperature					40°C					
nvironment		Humidity				25.20	90%RH					
	Efficier						92%					
	Protec		201	Input abnormality, bus or	A STATE OF THE PARTY OF THE PAR				and module overhe			
Shape	100000000000000000000000000000000000000	ns (W×H×D	mm)		-	- 10	vith casters is 118)x 1		1			
		(Kg)		≤330	≤330	≤380	≤380	≤440	≤440			

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

#### Notes:

**Exceeding & Trustworthy** 

- #1. Power factor is the measurement result of resistive load at rated power with input rated voltage of 380VLL and output usage;
- #2. Distortion is the measurement result of resistive load at rated power with an output voltage of 250V;
- #3. Source effect is calculated by the measured output voltage under two conditions: input rated voltages of 380VLL and 420VLL during no-load;
- #4. Load effect is calculated by the measured output voltage under no-load and the output measurement at rated power using a resistive load with an output voltage of 250V;
- #5. The FS appearing in parameters related to AC voltage and DC voltage in the parameter table refers to the corresponding AC and DC maximum output voltage values of the voltage measurement range of the corresponding model machine.
- #6. The FS appearing in parameters related to current in the parameter table refers to the maximum measured current effective value and peak value of the current measurement range of the corresponding model machine.
- #7. The FS appearing in parameters related to power in the parameter table refers to the maximum measured power value of the corresponding model machine;
- #8. The efficiency is the measurement result of resistive load measured at rated power with input voltage set at the input rated voltage of 380VLL and output voltage at 250V;

Any changes to the above parameter specifications will not be notified separately. The power supply parameters at the time of shipment shall prevail.

## **Programmalbe Grid Simulator** ANGS(F) Series



#### Product Introduction

The ANGS(F) Series Programmalbe Grid Simulator is specially developed for the new energy industries such as photovoltaic and wind power, applicable to inverter testing and verification. The power supply adopts FPGA digital control technology, able to completely realize the intelligent test process of inverters; With sine wave output mode and a variety of harmonic superposition output mode, single-phase, two-phase or three-phase low (zero) voltage ride-through, it is capable of fully simulating various abnormal grid conditions, able to assist in completing the overvoltage/undervoltage, overfrequency/underfrequency, unbalance and anti-islanding protection function tests, meeting the testing requirements of the relevant laws and regulations.

#### Features

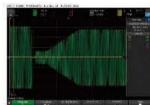
- It adopts FPGA digital control technology, able to completely realize the intelligent test process of inverters.
- It has high-performance high and low (zero) voltage ride-through, step, dip, flicker and other test functions, capable of performing 1ms ride-through test.
- It can set complex programming modes for voltage and frequency, able to easily realize the overvoltage/undervoltage, overfrequency/underfrequency tests.

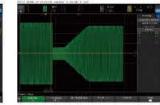
- It has the function of 2-50 harmonic outputs and interharmonic outputs.
- It has the three-phase unbalance mode, capable of adjusting three-phase voltage and three-phase phase difference, realizing the three-phase unbalance test.
- It is able to withstand 2S for 3 times the rated current impact, with strong load capacity.
- It has complete measurement functions: voltage, current, current peak value, frequency, active power, apparent power, power factor, and voltage peak factor.
- It has the online monitoring function: monitor parameters such as IGBT temperature, transformer temperature, fan speed and input voltage under output state.
- It has the "black box" function: automatically record power supply status, alarm codes, etc. to greatly reduce maintenance time.
- The fan speed is automatically adjusted according to the power supply temperature, reducing noise.
- It provides a Lock key, with a user-friendly design that automatically locks after 5 minutes of inactivity to prevent misoperation.
- The chassis is in the form of a combination cabinet, with an 8-inch large-screen color LCD display.
- It is equipped with a standard RS232 communication interface and can be optionally equipped with RS485, GPIB, Ethernet communication interfaces or analog control mode.

#### **Applications**

Exceeding & Trustworthy

High and low voltage ride-through: The programmed output mode set for the photovoltaic industry is used to simulate the process of grid fall and recovery, and is capable of simulating a variety of modes such as zero voltage ride-through, low voltage ride-through, high voltage ride-through, and a combination of high and low voltage ride-through, and arbitrarily setting the voltage, maintenance time, ride-through angle, recovery voltage, etc.

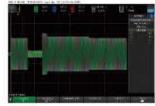




Zero voltage ride-through

Low voltage ride-through

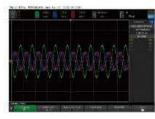




High voltage ride-through

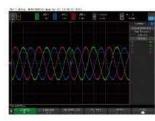
Combination of high and low voltage ride-through

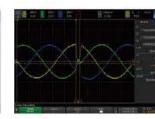
Unbalance: U, V and W phases and voltages can be set separately, or the degree of unbalance can be set directly.





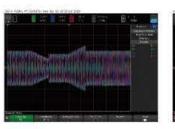
■ Transient change: An output method that simulates transient change in voltage, able to perform 1ms zero voltage ride-through





1ms ride-through

Programming: It has universally programmable settings. where voltage, frequency and phase can be changed according to single-step settings. Trigger phase and loop count can be set, and parameters of three-phase outputs can be separately configured. Any phase jump/ride-through test can be achieved.

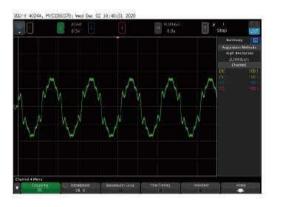


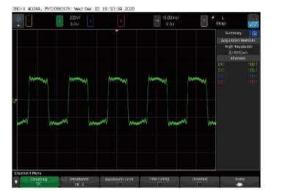


Gradual change in voltage + sudden change in voltage + sudden change in frequency

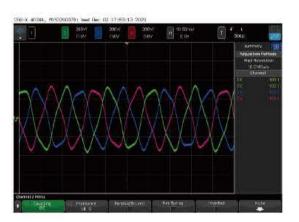
Sudden change in frequency at 0°

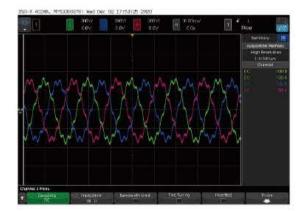
I Harmonics: The power supply has the harmonic editing function (2 - 50 times), able to add harmonics based on the standard sine wave, and set the harmonic content and angle, with single harmonic up to 30%, and the total harmonic content and number of harmonic superpositions unlimited. Moreover, it has 50 harmonic storage groups for quick call.





Interharmonics: The power supply has the interharmonic editing function, allowing addition of interharmonics based on the standard sine wave. Interharmonic trigger angle, frequency, content, and scan time can be set, with an interharmonic frequency range of 16 - 2,400Hz.

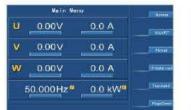




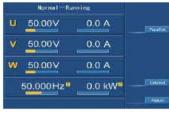
■ Flicker: The power supply can simulate the flicker characteristics of the power grid and test the flicker adaptation of the DUT.



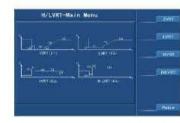
Large-size color LCD: numeric key input, knob operationt.



Harmonic output waveform



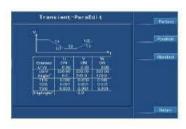
Conventional Mode - Operation State



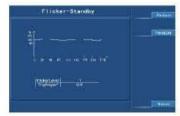
High and Low Voltage Ride-through



Unbalance Mode - Standby State

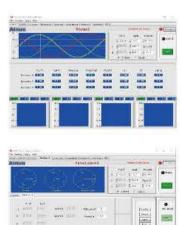


Transient Mode - Standby State



Flicker Mode - Standby State

#### Computer control software





## Specifications

	Mod	iel	ANGS015T(F)	ANGS030T(F)	ANGS045T(F)	ANGS060T(F)	ANGS090T(F)	ANGS120T(F)	ANGS180T(F)	ANGS240T(F		
1	Power Supp	ly Capacity	15kVA	30kVA	45kVA	60kVA	90kVA	120kVA	180kVA	240kVA		
nput	Voltag	e, Frequency	Three-phase four-wire +PE; Phase voltage: 220V±33V, line voltage: 380V±57V, and frequency: 50/60Hz±3Hz									
	Output Mode		Three-phase four-wire standard mode, three-phase unbalance mode									
	Voltag	e, Frequency	Phase voltage: 0.0 ~ 300.0V, frequency: 40.00 ~ 70.00Hz									
	Rated Current	220V	22.7A	45,4A	68.2A	90.9A	136.3A	181.8A	272.7A	363.6A		
	Setting	Voltage		Resol	ution: 0.1V, accu	racy: 0.2% × rea	ading value + 0.2	% × full range v	/alue			
	Accuracy	Frequency		10.00	Re	solution: 0.01Hz	accuracy: 0.05	%				
	Measure-	Voltage		Resol	ution: 0.1V, accu	uracy: 0.2% × rea	ading value + 0.2	2% × full range	value			
	ment	Frequency		7.123	Re	solution: 0.01Hz	, accuracy: 0.05	%				
	Accuracy	Current	27									
		Power	F	Resolution: 0.1k\	V/0.01kW/0.001			/alue + 0.45% ×	full range value			
	Frequ	ency Stability				101,081,0	70.57					
utput	The second secon	Distortion Degree	Linear load; THD < 1%									
2000		ponse Time		Three-phase four-wire +PE; Phase voltage: 220V±33V, line volt Three-phase four-wire standard mode, three-phase voltage: 0.0 ~ 300.0V, frequent 7A 45.4A 68.2A 90.9A 136  Resolution: 0.1V, accuracy: 0.2% × reading vance Resolution: 0.1V, accuracy: 0.2% × reading vance Resolution: 0.1A/1A, accuracy: 0.3% × reading vance Resolution: 0.1A/1A, accuracy: 0.3% × reading vance Resolution: 0.1A/1A, accuracy: 0.3% × reading vance Resolution: 0.1kW/0.01kW/0.001kW, accuracy: 0.45% × reading vance Resolution: 0.00% × 0.00% × 0.00% × 0.00% × 0.00% × 0.00% × 0.00% × 0.00% × 0.00% × 0.00% × 0.00% × 0.000 × 0.000 × 0.00	252							
	Three-phase		Three-phase standard mode: 120°±2°									
	Phase Difference		Three-phase unbalance mode: 0.0° ~ 359.9°, adjustable by 0.1°									
	Phase Voltage Wave Peak Facto		1.41±0.1									
İ	Source Voltage Effect		≤1%									
	Load Effect		≤ 1%									
	0.13.00.13	oad Capacity	IGI	W V	/hen 110% < O /hen 200% < C When 300% < IGBT overcurrer vervoltage, outp	utput ≤ 200%, th output ≤ 300%, th Output, the outp nt, transformer o ut undervoltage,	e output will be so ne output will be out will be shut of verheating, input output phase lo	shut off after 5s; shut off after 2s f immediately. overvoltage, in ss, output over	put undervoltage	,		
	Display Mode											
1			200 CONTRACTOR AND									
	Output Waveform		Sine wave, harmonic (2 ~ 50 harmonic superpositions)									
	Online Regulation Function		Under the conventional mode, the output voltage and frequency can be adjusted online									
	Transient Mode		Available. Capable of achieving voltage step (voltage dip) from high voltage to low voltage or from low voltage to high voltage									
ļ	Flicker Mode		Available. Capable of calling any one set of flicker parameters from 1 to 39 groups									
Fun-	High/Low (Zero) Voltage Ride-through Mode		Available. Users need to make personalized adjustments									
LIONS	Unbalance Mode		Available. Capable of adjusting three-phase voltage and three-phase phase difference separately or directly set three-phase unbalance degree									
	Programming Mode		200 steps with 999,999 loops. Voltage, frequency, and phase angle can be programmatically outputted									
	Startup Slow Rising Time		0.0~99.9s									
	Memory Function		Power-off memory function capable of remembering the last output mode and parameters									
1	Line Drop Compensation		0.000 ~ 0.500Ω									
İ	Committee	ication Interface		RS2	32 (standard), R	S485 (optional),	GPIB (optional),	Ethernet (optio	nal)			
	Commun											
	Ter	nperature, lumidity				0~40C,20	~ 90%RH					
nviron ment	Ter I			1,000×1,990×8	00	1909) I 1902/194500		/1	,200×1,990×1,0	00		

The above specifications are subject to change without notice.

## **Regenerative Grid Simulator** ANRGS(F) Series





#### Product Introduction

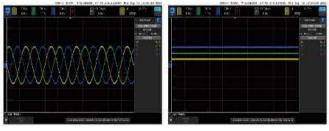
The ANRGS(F) Series Regenerative Grid Simulator adopts advanced SPWM technology, FPGA digital processing technology and high-power switching power supply technology, and it can output AC, DC, and AC+DC power supply, providing precise power input for AC load, DC load, rectifier load, etc. The power supply has the function of 100% rated power feedback to the grid, enabling four-quadrant operation and significant energy savings to reduce operating costs. It can set waveform switch-on and switch-off angles for testing surge current and output maintenance time. It can also set the rate of change of voltage and frequency to scan the range of power input specifications for the object to be tested. The power supply can simulate abnormal instantaneous rise, drop, short circuit, jitter and other phenomena in the power grid, stimulate distortion of the mains power waveform and provide accurate and fast measurement of power parameters. The ANRGS Series Regenerative Grid Simulator adopts advanced SPWM technology with excellent power output quality, widely used in laboratories and production lines in the photovoltaic, new energy vehicle, and other industries.

#### Features

- It has advanced SPWM technology and FPGA digital processing technology and high-power switching power supply technology with high power density.
- It has output modes include AC, DC, and AC+DC.
- It has 100% rated power feedback to the grid, and the power supply can operate in all four quadrants.
- It can realize three-phase and single-phase parallel operation, and the single-phase output after parallel connection can reach the maximum capacity of the whole unit.
- It has harmonic synthesis function for 2-50 times interharmonics with a synthesis bandwidth of 3,000Hz.
- It has three programming functions: sequence, pulse, and step, which simulate the interference in the actual grid, with a minimum programming step size of 1ms.
- It has a 5-inch LCD, which is small in size, light in weight and 4U in height, meeting the installation requirements of standard cabinets.
- It is equipped with RS485 and Ethernet communication interfaces as standard, with optional RS232 and GPIB communication interfaces.
- It comes with upper computer software, which can import and export arbitrary waveforms and set parameters through the upper computer.

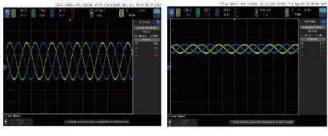
# Applications

AC+DC output mode: Three output modes: AC, DC, and AC+DC





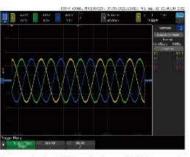
DC mode



AC+DC mode

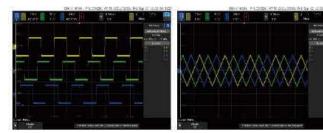
AC+DC mode

Start-stop angle: In the conventional mode, the start-stop angles of the waveform can be set to facilitate surge current tests.



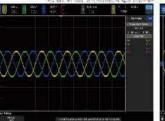
U-phase starts at 90° and stops at 270° waveform

Output waveform options: The three-phase output waveform can be independently set to select sine wave, square wave, triangular wave, clipped sine wave, 30 sets of built-in waveforms, and 6 sets of user-defined waveforms.



Square wave

Triangular wave

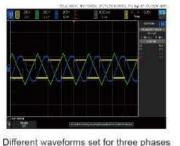


AC Power Supply \\\

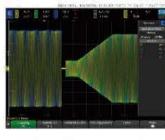
Clipped sine wave



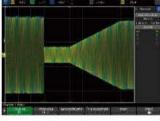
Built-in waveform



Sequence mode: It has universally programmable settings, where each phase of AC voltage, DC voltage, frequency, phase, waveform, and time can be independently set according to single-step settings. Trigger phase and loop count can be set, and parameters of three-phase outputs can be separately configured. Any phase abrupt change/crossing test can be achieved. Rich sequence combinations with high degree of freedom in parameter settings. By setting different combined sequence parameters, high and low voltage crossing tests can be completed. Minimum programming setting time is 1ms, capable of completing a 1ms stop test. Each sequence in each phase can independently set one of the 6 waveforms.



Zero voltage crossing test



Low voltage crossing test



High voltage crossing test



High and low voltage crossing tests

AC Power Supply \\\



Different waveforms can be selected during testing

Each phase stops within 1ms at 90°

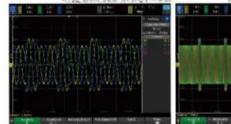




90° crossing

0°crossing

■ Pulse mode: it periodically changes the output state, where the power output will cyclically vary between regular power supply and pulse voltage. Each phase of AC voltage, DC voltage, frequency, angle, waveform, time, etc. can be independently set.

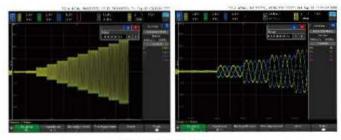




Pulse output waveform

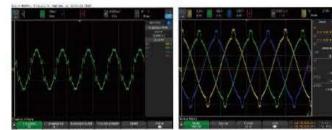
Pulse output waveform

■ Step mode: also known as staircase mode, where the output voltage gradually increases or decreases according to the set step size from the initial value. Each phase's AC voltage, DC voltage, and frequency can be independently set for initial value and change amount. Angle, waveform, step count, and step time for each phase can also be set independently.



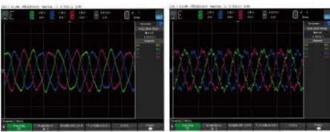
Step output waveform

Harmonic synthesis: the power supply has harmonic editing function (2-50 times), and various harmonic components can be added to the standard sine wave. It has 3 sets of percentage harmonic storage groups and 3 sets of amplitude harmonic storage wave voltage, harmonic content, angle, etc., of each phase can be independently set. Under the percentage mode, the content and angle of each harmonic can be set, with a single harmonic up to 30%, no limit on total harmonic content, and no limit on thenumber of harmonic superimpositions. Under the amplitude mode, specific voltage values can be set for harmonic components, without any percentage relationship with fundamental wave voltage.



Harmonic output waveform

Interharmonic synthesis: the power supply has interharmonic editing function, allowing addition of interharmonic components to the standard sine wave. Interharmonic trigger angle, start-stop frequencies, content, and scan time can be set, with an interharmonic frequency range of 16-3,000Hz.



Interharmonic output waveform

Operation: 5-inch color capacitive touch screen and knobs can be used to set the voltage and frequency in the conventional mode, with buttons responsible for starting and stopping the conventional mode.



Upper computer: It is equipped with the standard upper computer software, with a graphical user interface for convenient and efficient operation.



#### Selection List

Model	Complete machine Power	Output phase number	AC voltage	Frequency	DC voltage	Per-phase current	Overall Dimensions W×H×D(mm)
ANRGS003S-350(F)	3kVA	Single-phase	0~350,00V	30.000~100.000Hz	-495.00 ~495.00V	35A	432×175×700
ANRGS005S-350(F)	5kVA	Single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	35A	432×175×700
ANRGS006S-350(F)	6kVA	Single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	35A	432×175×700
ANRGS010S-350(F)	10kVA	Single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	60A	432×175×735
ANRGS012S-350(F)	12kVA	Single-phase	0~350.00V	30,000~100.000Hz	-495.00 ~495.00V	70A	432×175×700
ANRGS015S-350(F)	15kVA	Single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	70A	432×175×700
ANRGS020S-350(F)	20kVA	Single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	120A	432×175×735
ANRGS006A-350(F)	6kVA	Three-phase & single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	35A	432×175×700
ANRGS009A-350(F)	9kVA	Three-phase & single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	35A	432×175×700
ANRGS012A-350(F)	12kVA	Three-phase & single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	35A	432×175×700
ANRGS015A-350(F)	15kVA	Three-phase & single-phase	0~350,00V	30.000~100.000Hz	-495.00~495.00V	35A	432×175×700
ANRGS018A-350(F)	18kVA	Three-phase & single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	35A	432×175×700
ANRGS020A-350(F)	20kVA	Three-phase & single-phase	0~350.00V	30.000-100.000Hz	-495.00 - 495.00V	60A	432×175×735
ANRGS025A-350(F)	25kVA	Three-phase & single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	60A	432×175×735
ANRGS030A-350(F)	30kVA	Three-phase & single-phase	0~350.00V	30.000 ~ 100.000Hz	-495.00 - 495.00V	60A	432×175×735
ANRGS050B-350(F)	50kVA	Three-phase & single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	120A	600×1230×1000
ANRGS060B-350(F)	60kVA	Three-phase & single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	120A	600×1230×1000
ANRGS075B-350(F)	75kVA	Three-phase & single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	180A	600×1230×1000
ANRGS090B-350(F)	90kVA	Three-phase & single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	180A	600×1230×1000
ANRGS100B-350(F)	100kVA	Three-phase & single-phase	0-350,00V	30.000 ~ 100.000Hz	-495.00~495.00V	240A	600×1230×1000
ANRGS120B-350(F)	120kVA	Three-phase & single-phase	0~350.00V	30.000~100.000Hz	-495.00~495.00V	240A	600×1230×1000

#### Specifications

	M	lodel	ANRGS 003S -350(F)	ANRGS 005S -350(F)	ANRGS 006S -350(F)	ANRGS 0105 -350(F)	ANRGS 012S -350(F)	ANRGS 015S -350(F)	ANRGS 018A -350(F)			
	Power sup	oply capacity	3000VA	5000VA	6000VA	10000VA	12000VA	15000VA	20000VA			
	1	Voltage	Line voltage: 342V-480V; 3-phase 3-wire+ PE									
AC	Curre	ent (@342V)	15A Max	22A Max	25A Max	39A Max	40A Max	50A Max	65A Max			
input	F	requency		47∼63Hz								
	Pow	er factor *1		≥0.98								
	Phase number		Single-phase	Single-phase	Single-phase	Single-phase	Single-phase	Single-phase	Single-phase			
		Power	3000VA	5000VA	6000VA	10000VA	12000VA	15000VA	20000VA			
		Range				0.00-350.00V						
		Resolution				0.01V						
	Voltage	Accuracy				0.1%F.S.						
AC	voitage	Distortion *2			0.3%	@50/60Hz; 1%@3	0-100Hz					
output		Source effect *3	≤0.02%									
		Load effect *4	≤0.02%									
	Current	Effective value range	35A	35A	35A	60A	70A	120A	120A			
	/phase	Peak value range	105A	105A	105A	180A	210A	360A	360A			
		Range				30.000~100.000	Hz					
	Frequency	Resolution				0.001Hz						
		Accuracy				0.01%						
	Power	Range	3000W	5000W	6000W	10000W	12000W	15000W	20000W			

	M	odel	ANRGS 003S -350(F)	ANRGS 005S -350(F)	ANRGS 006S -350(F)	ANRGS 010S -350(F)	ANRGS 012S -350(F)	ANRGS 015S -350(F)	ANRGS 018A -350(F)		
		Panes	-550(1)	-550(1)	-550(1)	K 1000		-550(1)	-555(1)		
	Voltage	Range				-495.00~495.00\ 0.01V	V				
oc .	voltage	111000001111111111111111111111111111111				0.01V 0.1%F.S.					
tput		Accuracy									
	Current	Range	35A	35A	35A	60A C: 350.00V; DC: 495	70A	120A	120A		
	. <b>K. (K. 1)</b>	Range			A	0.01V	5.00 V				
ea-	Voltage	Resolution				2000					
re-		Accuracy *5	35A	35A	35A	0.1%F.S. 60A	70A	120A	120A		
ent cu-		Range Effective value	1000	-00000	5.50	8,500	51671W	5707/11	ELF2747		
асу	Current	Peak value	105A	105A	105A	180A	210A	360A	360A		
		Resolution				0.01A					
		Effective value accuracy*6				0.2%F.S.					
		Peak value accuracy*6				0.5%F.S.					
	Power	Resolution		0.01W							
		Accuracy *7	0.3%F.S.								
		Display			5-inc	ch color touch scree	n LCD				
	Wavef	orm selection	Sine wave, to	riangle wave, squar	re wave, clipped si	ne wave, 30 sets of	built-in waveforms	, and 6 sets of cust	om waveforms		
	Start	-stop angle				0-359.9°					
	Kno	b function		Knob adjus	stment available for	conventional mode	voltage and frequ	ency settings			
	Parallel o	peration function			Can achieve	parallel operation of	of multiple units				
	Ha	armonics				2-50 times					
ea-	Harmonic :	and internarmonic				3000Hz					
ire-	simulat	ion bandwidth				3000H2					
ent ccu-	Sequ	ence mode	20	00 steps with 9,999	loops. Voltage, fre	equency, and phase	angle can be prog	rammatically outpu	tted		
су	Pu	lse mode	9,999 loops. Cyclic changes in voltage amplitude, frequency, and angle								
	St	ep mode	9,999 loops. Change the voltage frequency according to the set voltage and frequency step values								
	Online reg	gulation function	Under the conventional mode, the output voltage and frequency can be adjusted online, and the waveform can be switched online								
	Line drop	compensation	The device has Sense terminals that allow remote sampling compensation								
	Commun	ication interface	RS485 (standard), Ethernet (standard), synchronous signal (standard), RS232 (optional) and GPIB (optional)								
	Ren	note control				None					
ork- ng nvi-	Ter	nperature				0~40°C					
n∀i- on- ient	1	Humidity				30~90%RH					
IOTIC	Efficienc	y *8	≥92%								
	Protect	ion	Input abnormality, bus overvoltage, output overvoltage and undervoltage, output overcurrent, output overload, and module overheating								
		Height				4U					
			432×175× 700	432×175× 700	432×175× 700	432×175× 735	432×175× 700	432×175× 735	432×175× 735		
nape		mensions ∘H×D mm)	BASS A ST ASS	The height of 1	75mm is without fee is the front and rea	ch chassis size witho et, with feet the heigh or panel size excludin minals is 779mm/81	it is 188mm. The fe g terminals and pro	et are detachable.			
			I		LUI	THE PROPERTY OF THE PROPERTY OF	111000				

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

	M	lodel		ANRGS 006A -350(F)	ANRGS 009A -350(F)	ANRGS 012A -350(F)	ANRGS 015A -350(F)	ANRGS 018A -350(F)	ANRGS 020A -350(F)	ANRGS 025A -350(F)	ANRGS 030A -350(F)		
	Power sup	ply capacity		6000VA	9000VA	12000VA	15000VA	18000VA	20000VA	25000VA	30000VA		
		Voltage			-	Line	voltage: 342V-4	80V; 3-phase 3-	wire+ PE				
Ī	Cı	ırrent (@342	2V)	20A Max	25A Max	30A Max	35A Max	40A Max	45A Max	55A Max	65A Max		
AC	34,5%	Frequency	000401	5702200035-15,	KINES SECTION AND	- I The State of t	47	~63Hz	CONTRACTOR DESCRIPTION OF THE PROPERTY OF THE	(34.80), 350, 460, 460	14.000 CM 2002		
input	P	ower factor	654				1	≥0.98					
	-	hase numbe					Three-phas	se & single-phase	9				
	Power	Total	Power	6000VA	9000VA	12000VA	15000VA	18000VA	20000VA	25000VA	30000V		
	, 0,,,,,	Power p	per phase	2000VA	3000VA	4000VA	5000VA	6000VA	6667VA	8333VA	10000V/		
		RR	ange				0.00	~350.00V					
		Reso	olution					0,01V					
		Acc	uracy		0.1%F.S.								
	Voltage	Disto	rtion *2				0.3%@50/60	Hz; 1%@30-100	Hz				
		Source	effect *3				≤	0.02%					
AC		Load	effect *4					0.02%					
output		Effective value range	Three-phase mode	35A	35A	35A	35A	35A	60A	60A	60A		
	Current	Effective value range	A. VAV. 10. (1)	105A	105A	105A	105A	105A	180A	180A	180A		
	/phase	range Peak value	Three-phase mode	105A	105A	105A	105A	105A	180A	180A	180A		
-		range	mode	315A	315A	315A	315A	315A	540A	540A	540A		
		1,583	ange				AND SERVICE AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AD	~100.000Hz					
	Frequency	270.00	olution					.001Hz					
	161 (2)	100.000000	uracy				3	0.01%					
3	Power		Power	6000W	9000W	12000W	15000W	18000W	20000W	25000W	30000W		
	1.01101		er channel	2000W	3000W	4000W	5000W	6000W	6667W	8333W	10000V		
	Valtaga	1000	ange					0~495,00V					
	Voltage		olution					0.01V					
		Acc	curacy		1		0.	1%F.S.					
DC	Current	Range	Single channel Parallel	35A	35A	35A	35A	35A	60A	60A	60A		
output			connection	105A	105A	105A	105A	105A	180A	180A	180A		
		Ra	ange	AC: 350.00V; DC: 495.00V									
	Voltage		olution	0.01V									
	- Common Post	Accu	racy *5	- 0			0.	.1%F.S.					
/leasure		Range	Effective value Peak	105A	105A	105A	105A	105A	180A	180A	180A		
ment	Current	1 0.00 L	value	315A	315A	315A	315A	315A	540A	540A	540A		
accuracy			olution ue accuracy*6					0.01A .2%F.S.					
		Peak value	e accuracy*6				0	.5%F.S.					
	Power		olution uracy *7					0.01W .3%F.S.					
	350	Display		257	7.55		5-inch color	touch screen LCD			¥		
		veform select start-stop angl		Sine wa	ave, triangle wa	ve, square wave,	clipped sine wave	e, 30 sets of built-in 1-359.9°	waveforms, and (	o sets of custom w	avetorms		
		Knob function	i		Kı		vailable for conver	itional mode voltag	ge and frequency:	settings			
	Paralle	el operation fu Harmonics	inction			Ca	an achieve parallel 2-l	l operation of multi 50 times	pie units				
unction		nic and interha					3	3000Hz					
an money		ulation bandw equence mod			200 steps w	vith 9,999 loops. \	oltage, frequency.	and phase angle	can be programm	atically outputted			
		Pulse mode				9,999 loops. C	ydlic changes in vi	oltage amplitude, f	requency, and and	gle			
1	Online	Step mode regulation fu	nction	Under the c	onventional mo	de, the output vo	Itage and frequence	cy can be adjusted	voltage and freque online, and the w	aveform can be st	witched online		
	Line o	drop compens	sation	Salara di Salara di Salara		The device has	Sense terminals th	nat allow remote sa	ampling compensa	ation			
		nunication inte Remote contro			souce (standar	u), cinemet (stan		is signal (standard None	), RS232 (optional	y and GPIB (option	reli)		
Working		Temperature					0	~40°C					
nvironment	Efficie	Humidity ency *8						30~90%RH ≥92%					
		Protection nput abnormality, bus overvoltage, output overvoltage and undervoltage, output overc					vercurrent, output	overload, and mod	dule overheati				
	FIG	Height						4U					

# AC Power Supply \\\

## Specifications

	Ñ	/lodel	ANRGS	ANRGS	ANRGS	ANRGS	ANRGS	ANRGS			
	Power su	pply capacity	050B-350(F) 50KVA	060B-350(F) 60kVA	075B-350(F) 75kVA	090B-350(F) 90kVA	100B-350(F) 100kVA	120B-350(F 120kVA			
	L OWEL SO	Voltage	JUNA		ine voltage: 342V-480\			12000			
AC	Cı	urrent (@342V)	110A Max	130A Max	165A Max	195A Max	220A Max	260A Max			
put		Frequency		1.2.70.11120.2	47-63	17/07/5/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/	1				
*******	Р	ower factor *1			≥0.9	8					
	Nu	umber of phase			Three-phase &	single-phase					
	Power	Total power	50kVA	60kVA	75kVA	90kVA	100kVA	120kVA			
	TOWER	Power per phase	16.66kVA	20kVA	25kVA	30kVA	33.33kVA	40kVA			
		Range			0.00-35						
		Resolution			0.01	(ii)					
	Voltage	Accuracy Distortion *2			0.1%	CHARLES AND A STATE OF THE STAT					
		Source effect *3			0.3%@50/60Hz; ≤0.02						
		Load effect *4			≤0.02						
		Effective value range		1	1830/6	Alice and the second se	1				
		(three-phase mode)	120A	120A	180A	180A	240A	240A			
AC	22/30/20/20	Effective value range	12220	27201	12324	752755	72.674	ALC: N			
utput	Current	single-phase mode)	360A	360A	540A	540A	720A	720A			
		Peak value range	2004	2604	C404	E404	7004	7004			
		(three-phase mode)	360A	360A	540A	540A	720A	720A			
		Peak value range	1080A	1080A	1620A	1620A	2160A	2160A			
		single-phase mode)	1000A	TOOOM	237500	United States	21004	21000			
	Frequ-	Range			30.000-10	Part Carrier State Control					
	ency	Resolution			0.001						
	- 2	Accuracy Total Power	50144	COLAM	0.01		4001411	1000			
DC output	Power	Power per channel	50kW 16.66kW	60kW 20kW	75kW 25kW	90kW 30kW	100kW 33.33kW	120kW 40kW			
	1100110001	Range	10.00KVV	ZUKVV	-495.00-4	0.555777777	33.33KVV	40677			
	Voltage	Resolution			0.01	100000000000000000000000000000000000000					
	voltage	Accuracy			0.1%	en en en en en en en en en en en en en e					
	Current	Single channe	120A	120A	180A	180A	240A	240A			
	range	Parallel connection	360A	360A	540A	540A	720A	720A			
		Range	3000007	V	AC: 350V: DO	C: 495.00V		355,072,05			
	Voltage	Resolution	0.01V								
		Accuracy *5			0.1%	17.00000					
easu-		Range Effective value	360A	360A	540A	540A	720A	720A			
ment	0	Peak value	1080A	1080A	1620A	1620A	2160A	2160A			
acy	Current	Resolution	0.01A								
acy		Effective value accuracy*6 Peak value accuracy*6	0.2%F.S. 0.5%F.S.								
	DESCRIPTION OF	Resolution	0.5%F.S. 0.01W								
	Power	Accuracy *7	0.01W 0.3%F.S								
		Display			5-inch color touc						
	Wav	reform selection	Sine wave, triang	le wave, square wave	, clipped sine wave, 30		forms, and 6 sets of cu	stom waveform			
	St	art-stop angle			0-359		0.00.0000				
		Knob function		Knob adjustment	vailable for convention	al mode voltage and	frequency settings				
	Paralle	operation function			Non						
	J	Harmonics			2-50 tir	nes					
un-		ic and interharmonic			3000	Hz					
tion	1000000	lation bandwidth			100000	M764		o transition of			
**************************************	18.000	equence mode	200 st		Voltage, frequency, and	PERMITTER AND ACTION OF THE PERMITTER AND ACTION AND ACTION AND ACTION AND ACTION AND ACTION AND ACTION AND ACTION AND ACTION AND ACTION AND ACTION AND ACTION AND ACTION AND ACTION ACTION AND ACTION	CONTRACTOR CONTRACTOR	outted			
		Pulse mode Step mode	0000	The second secon	Cyclic changes in voltag Itage frequency accordi			duce			
		adjustment function			oltage frequency according	-					
		rop compensation	Officer the convention		Sense terminals that a			iii be switched c			
		unication interface	RS485 (sta	THE RESIDENCE OF THE PROPERTY	ndard), synchronous sig			(optional)			
	The second second second	emote control	110,00 (010		Nor	THE PROPERTY OF THE PARTY OF TH	- 17F	ASPERTATION.			
forking	1212	Temperature/			0-40	22					
ronment		humidity			30-90%	TO CATALOG TO THE TOTAL CONTROL TO THE TOTAL CONTRO					
	Effici	iency *8			≥92	C)					
	Pro	tection	Input abno	rmality, bus overvolta	ge, output overvoltage a and module o		tput overcurrent, outpu	t overload,			
nape	Dimens	ions(W×H×D mm)		6	00×1230 (the height wit	h casters is 118)×100	00				
	Mais	ght (Kg)	≤330	≤330	≤380	≤380	≤440	≤440			

# **Bidirectional Grid Simulator** ANBGS(F) Series



#### Product Introduction

The ANBGS(F) series Regenerative AC Power Supply is specially developed for new energy industries such as photovoltaic and wind energy, suitable for inverter testing and verification. The power supply has the function of energy regenerative type grid and can operate in four quadrants, saving energy consumption with low operating costs; FPGA digital control technology is adopted for smart inverter test process; with sine wave output and multi harmonic superposition output, single-phase, two-phase or three-phase High/Low (zero) Voltage Ride-Through (H/LVRT), which can simulate various abnormal conditions of power grid, and cooperate to achieve test of over/under-voltage, over/under-frequency, unbalance and anti-islanding protection, meeting test requirements in relevant regulations.

#### Features

- FPGA digital control, intelligent inverter test process;
- With function of energy regenerative type grid, operating in four quadrants
- Input power factor correction.

- (H/LVRT), step, sag, flicker and other test functions, ride-through test within 1ms;
- Complex programming for voltage/frequency setting, easy over/under-voltage and over/under-frequency test;
- Three-phase unbalanced, adjustable three-phase voltage and phase difference separately, or direct setting of three-phase unbalance;
- 2-50th harmonic and inter-harmonic output;
- Test complying with NBT 32004-2018, IEC 61000-4-11/13/ 14/28 and other standard and regulations;
- Complete measurements: voltage, current, current peak, frequency, active power, apparent power, power factor, voltage crest factor;
- Online monitoring: monitor IGBT temperature, transformer temperature, fan speed, input voltage and other parameters in output state;
- Operating data recorders: keep the record of power supply status and alarm code automatically during alarming, save the maintenance time.
- Lock key, user-friendly design, automatically locking without operation for 5 minutes to prevent from operation mistakes.
- Combined cabinet for chassis, 8" large-screen color LCD; Standard RS485, Ethernet interface, synchronous signal interface, optional RS232/GPIB interface.

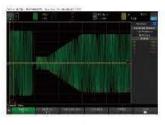
AC Power Supply

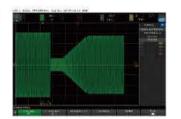
AC Power Supply \\ Ainuo

# Applications

■ HVRT/LVRT: Programmed output mode for photovoltaic industries, to simulate the process of grid voltage sags and recovery and can simulate multiple modes such as zero voltage ride through (ZVRT), low voltage ride through (LVRT), high voltage ride through (HVRT), and Combined HVRT/LVRT etc., and the voltage, holding time, ride through angle, recovery voltage etc. can be set.

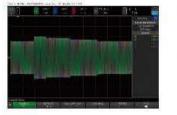
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Zero Voltage Ride-Through (ZVRT)

Low Voltage Ride-Through (LVRT)





High Voltage Ride-Through (HVRT)

High/Low Voltage Ride-Through (H/LVRT)



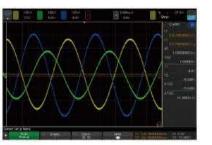


90° Ride-Through

0° Ride-Through

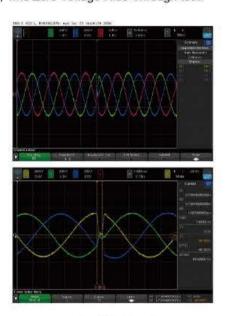
■ Unbalance: setting of U/V/W phase and voltage individually, direct setting of unbalance.





Exceeding & Trustworthy

Sag: An output mode simulating short-time changes to voltage, 1ms Zero Voltage Ride-Through test.



1ms Ride-Through

Programming: General programmable settings, voltage/frequency/phase are transformed by single-step setting, setting of trigger phase and cycle times, setting of parameters separately for three-phase output, sag/ridethrough test in any phase.





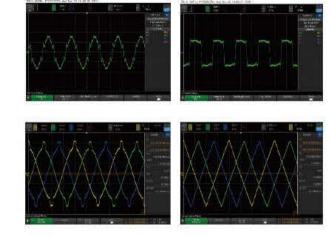
Voltage Ramp + voltage jump + frequency jump Frequency 0° jump



90° to 270°

■ Harmonic: Harmonic editing (2-50th), various harmonics of various orders superposed on standard sine wave, setting of component and angle of each harmonic. The single harmonic can reach 30%, unlimited total harmonic content and harmonic superposition times. 50 sets of harmonic storage groups for fast calling.

Exceeding & Trustworthy



Interharmonics: Interharmonic editing, interharmonics superposed on standard sine waves, setting of interharmonic trigger angle, frequency, component and scanning time; frequency of interharmonic: 16-2500Hz.



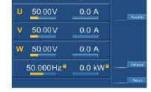


■ Flicker: Simulate the flicker characteristics of power grid to conduct the flicker adaptability test of DUT.

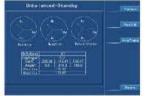


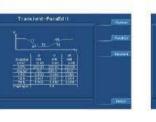
Large-size color LCD, numeric key input, knob operation.

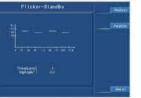




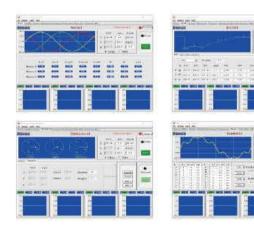








PC control software



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	(I	Model	ANBGS 015TL(F)	ANBGS 030TL(F)	ANBGS 045TL(F)	ANBGS 060TL(F)	ANBGS 090TL(F)	ANBGS 120TL(F)	ANBGS 150TL(F) ANBGS	ANBGS 200TL(F) ANBGS	ANBGS 300TL(F) ANBGS	ANBGS 400TL(F) ANBGS	
									150TH(F)	200TH(F)	300TH(F)	400TH(F)	
	C	apacity	15kVA	30kVA	45kVA	60kVA	90kVA	120kVA	150kVA	200kVA	300kVA	400kVA	
		'oltage		3-phase 4-w	ires + PE, Ph	ase voltage:	220V±33V, I	ine voltage:	380V±57V, fr	requency 50/6	60Hz±3Hz		
Input	WESTERN.	ack function				With e	nergy feedb	ack grid fund	ction				
	0.0000000000000000000000000000000000000	ower factor			>0.99(ir	March III ACAMERICAN CON			% of rated cu	irrent)			
	473 (400) (2004)	rent distortion					3% (at rated	National Colors of	× 1 - 1 - 1 - 1 - 1				
	175307	out mode			112000000000000000000000000000000000000				inbalanced m	Artesta de la composición della			
	Voltage, frequency	L version			15.0000000		AND DESCRIPTIONS OF THE PARTY OF THE		40.00~70.0 40.00~70.0	THE VOYER OF THE			
-	Rated	L version 220V	22.7A	45.4A	68.1A	90.9A	136.4A	181.8A	227.2A	303.0A	454.5A	606.0A	
	current	H version 440V	22.17	40.40	00. IA	30.36	130.46	101.04	113.6A	151.5A	227.2A	303.0A	
-	Setting	Voltage	- 0°E		Re	solution: 0.0	11V Accura	cv: 0.1%xf	Vicinia de la companya		261.60	303.0A	
	accuracy	Frequency	Resolution: 0.01V, Accuracy: 0.1%×full scale value  Resolution: 0.001Hz, Accuracy: 0.01%										
		Voltage			Re	- 1945VA-0 - 1 - 2055V	0.000 0.000 ET. T.C.			ė			
	Testing	Frequency		Resolution: 0.01V, Accuracy: 0.1%×full scale value  Resolution: 0.001Hz, Accuracy: 0.01%									
	accuracy	Current			Res	UNIVERSE DESIGNATION	0004W ma		full scale valu	ue			
	8	Power		Resolution: 0.1kW/0.01kW/0.001kW, Accuracy: 0.3%×full scale value									
Dutput	Freque	ncy stability					≤0.01	1%					
	Voltag	e distortion					Linear loa	id<1%					
	Transient	recovery time					1m	s					
	3 phase pl	hase difference		3-phase s	tandard mod	le: 120°±2°;	3 phase unb	alanced mo	de: 0.0°~3	59.9°, 0.1°A	djusted		
	Cre	st factor					1.41±	0.1					
	Source	voltage effect					≤0.02	2%					
	Los	ad effect					≤0.02	2%					
	Overlo	ad capacity	105% <output≤110% 110%<output≤150%="" 150%<output≤200%="" 200%<output="" 2s;="" 600s;="" 60s;="" be="" immediately<="" output="" stopped="" td="" the="" will="" within=""></output≤110%>										
	Protec	ction mode	IGBT overheat, IGBT over current, Transformer overheat, Input under voltage, Input over voltage, bus anti-recharge, Output under voltage, Output over voltage, Output lack phase, Output over current, Output over load, Output short circuit										
	D	isplay		8" LCD, resolution: 800*600									
	Outpu	t waveform			Sine wave	harmonic (s	uperimposed	i 2∼50th har	monic), interl	harmonic			
	Trans	ient mode		Yes, V	oltage steps	(sag) from hi	gh voltage to	low voltage	or low voltag	ge to high volt	age		
	Flick	ker mode			Yes, c	all of any gro	up of flicker p	parameters t	from Group 1	~39,			
Func-	HVRT/	LVRT mode	FORM & S.	Y	es, the stand	ard curve ca	n be called o	r customize	d as required	for the user			
tion	5000-0000	nced mode	Yes,	The same and the	A 25 TO 10 T	A NO HOUSE	700	Maria and American		g of three-pha	WS DA	e;	
	10100	nming mode		200 step	os of <b>999999</b>	cycles, volta	04//20225		le programm	ed freely for o	output		
	275-X V 10	start time		2	N W 25	8 % %	0.0~99.	30 10		W W			
		stment function						120	99 27	normal mode	9		
	1.0	lemory	-		W111900			-	t mode and p			1	
nviron-	2000	munication	RS	3485 (standar	d), Ethernet				lard), RS232	(optional), GI	PIB (optional)		
nviron- ment	Temp	./Humidity	900	×4700 / = -	din a	100	0~40°C, 20	. 90					
B	Dimensions(W	/×H×D mm)	caste 800	×1790 (includer height 190) ×1700 (include height 100)	×800 ding	caste	0×1900 (incl er height 190 0×1900 (incl e height 100)	)×1000 uding	100 0000 000	0 (including nt 100)×1000	2000×1900 base heigh		

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

# Specifications

Exceeding & Trustworthy

	- j	Model	ANBGS 500TL(F) ANBGS 500TH(F)	ANBGS 600TL(F) ANBGS 600TH(F)	ANBGS 800TL(F) ANBGS 800TH(F)	ANBGS 1000TL(F) ANBGS 1000TH(F)	ANBGS 1200TL(F) ANBGS 1200TH(F)	ANBGS 1500TL(F) ANBGS 1500TH(F)	ANBGS 2000TL(F) ANBGS 2000TH(F)				
	C	apacity	500kVA	600kVA	800kVA	1000kVA	1200kVA	1500kVA	2000kVA				
- 1	٧	/oltage	3-pha	se 4-wires + PE	, Phase voltage: 220	V±33V, line voltag	ge: 380V±57V, fre	quency 50/60Hz±3l	Hz				
4000000	Feedb	ack function	South		With energ	y feedback grid f	unction		1000				
Input -	Input p	ower factor	>0.99(input rated voltage and input 50%-100% of rated current)										
	Input cur	rent distortion		<3% (at rated condition)									
	Out	put mode	Three-phase standard mode, three-phase unbalanced mode										
	Voltage,	L version		Ph	nase voltage; 0.0~3	50.0V; frequenc	y: 40.00~70.00	Hz					
	frequency	H version		Ph	nase voltage: 0.0 ~ 7	00.0V; frequenc	y: 40.00~70.00	Hz					
	Rated	L version 220V	757.5A	909.0A	1212A	1515A	1818A	2272A	3030A				
	current	H version 440V	378.7A	454.5A	606.0A	757.5A	909.0A	1136A	1515A				
	Setting	Voltage	Resolution: 0.01V, Accuracy: 0.1%×full scale value										
	accuracy	Frequency	Resolution: 0.001Hz, Accuracy: 0.01%										
		Voltage		Resolution: 0.01V, Accuracy: 0.1%×full scale value									
	Testing	Frequency	Resolution: 0.001Hz, Accuracy: 0.01%										
	accuracy	Current			Resolution: 0.1A/1A	, Accuracy: 0.2	%×full scale value	92					
Output		Power		Resolution	on: 0.1kW/0.01kW/0	.001kW, Accura	icy: 0.3%×full sc	ale value					
Dutput	Freque	ency stability				≤0.01%							
	Voltag	e distortion			Linea	r load: THD<19	%						
	Transient	recovery time				1ms							
	3 phase p	hase difference	3-	phase standard	mode: 120°±2°; 3 ph	ase unbalanced	mode: 0.0°~35	9.9°, 0.1°Adjusted					
	Crest factor					1.41±0.1							
	Source voltage effect					≤0.02%							
	Loa	Load effect				≤0.02%							
	Overlo	ad capacity	105% <output≤110% 110%<output≤150%="" 150%<output≤200%="" 200%<output="" 2s;="" 600s;="" 60s;="" be="" immediately<="" output="" stopped="" td="" the="" will="" within=""></output≤110%>										
	Prote	ction mode	IGBT overheat, IGBT over current, Transformer overheat, Input under voltage, Input over voltage, bus anti-recharge, Output under voltage, Output over voltage, Output lack phase, Output over current, Output over load, Output short circuit										
	0	Display			8" LCD	, resolution: 800*	600						
1	Outpu	t waveform		Sine w	ave, harmonic (super	imposed 2~50th I	harmonic), interha	armonic					
	Trans	sient mode		Yes, Voltage ste	eps (sag) from high v	oltage to low volta	age or low voltage	to high voltage					
	Flick	ker mode		Ye	s, call of any group of	flicker paramete	rs from Group 1~	39.					
Func-	HVRT/	LVRT mode		Yes, the st	andard curve can be	called or custom	ized as required f	or the user					
tion	Unbala	anced mode	Yes, adju	stable three-phas	se voltage/phase diffe	erence separately	or direct setting	of three-phase unba	alance;				
	Program	mming mode		200 steps of 999	999 cycles, voltage/fr	equency/phase a	angle programme	d freely for output					
	Soft	start time			- S	0.0~99.9Sec.							
	Online adju	ustment function		Online adjus	sting of output voltage	/frequency and s	witch of wave in r	normal mode					
	M	lemory		Power do	own memory function	, memory last out	put mode and pa	rameters.					
	Com	munication	RS485 (	standard), Ether	net (standard), synch	ronous signal (sta	andard), RS232 (	optional), GPIB (opt	ional)				
nviron- ment	Temp	./Humidity			0~4	0℃, 20~90%R	Н	V.					
	Dimensions(W	×H×D mm)	3000×1900 the base heig		4000×1900 (including the base height 100)×1200	5000× (includir base height	ng the	7500×2100 (including the base height 100)×1400	5000×2100 (including the base heigh 100)×1400× 2 parallel machines				

# **Bidirectional Grid Simulator (Pro)** ANBGS(F) Series (Pro)

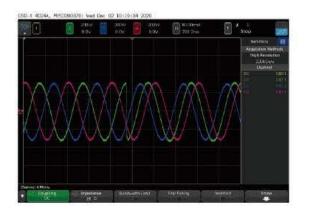


## Features

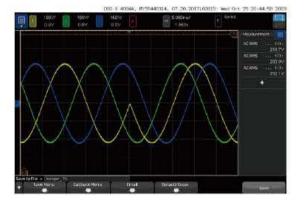
- Support for arbitrary angle abrupt change/crossing test.
- 10.1-inch large color LCD with touch control operation support.

# Applications

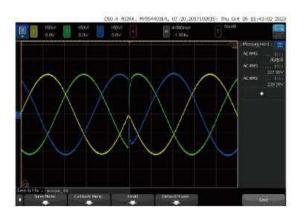
Programming: it has universally programmable settings, where voltage, frequency and phase can be changed according to single-step settings. Trigger phase and cycle count can be set, and parameters of three phase outputs can be separately configured. Any phase shift/crossing test can be achieved.



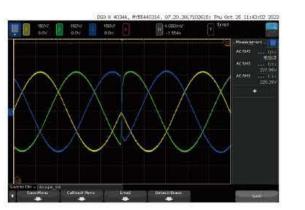
Abrupt change from 90° to 270°



180° abrupt change of three phase's



U-phase undergoes an abrupt change from 0° to 180°



90° abrupt change of U-phase and W-phase

#### ■ 10.1-inch large color LCD with touch control operation support



Main interface

interface data display



Normal waveform preview regular

Select three-phase input for conventional parameters



Programming mode

X	X	X	- 11		Manu		-103-010	-0 -001-	
	1111	100		4					
				100					

Harmonic mode

Black box recording

#### PC control software





-0.00	5 TO 1	
-		

0:00	25880	
5,000	1 200	
0.00		
	6000	
<b>**</b> 600		
	1000	





	Mo	odel	ANBGS100T-450(F)	ANBGS150T-450(F)	ANBGS200T-450(F)	ANBGS300T-450(F)					
	Cap	acity	100kVA	150kVA	200KVA	300kVA					
	Vol	tage	3-phase 3-wire+Pl	E Phase voltage 220V±33V, line	voltage 380V±57V, and freque	ncy 50/60Hz±3Hz					
nput	Feedbac	k function		Has the function of ener	rgy feedback to the grid						
ara-	Input pov	wer factor	4	>0.99 (rated voltage input and	50%-100% rated current input)						
eter	Input curre	nt distortion		<3% (under ra	ted conditions)						
	Outpu	t mode	T	hree-phase standard mode and	d three-phase unbalanced mode						
	Voltage an	d frequency		Phase voltage: 0.0-450.0V:	frequency: 40.00-70.00Hz						
	Rated current	166V	200.8A	301.2A	401.6A	602.4A					
	Setting	Voltage		Resolution: 0.01V, accura	cy: 0.1%×Full range value	1:					
	accuracy	Frequency		Resolution: 0.001H	z, accuracy: 0.01%						
		Voltage		Resolution: 0.01V, accura	cy: 0.1%×Full range value						
	Measurement	Frequency		Resolution: 0.001H	Z, accuracy: 0.01%						
	accuracy	Current		Resolution: 0.1A/1A, accura	acy: 0.2%×Full range value						
	5	Power	Res	Resolution: 0.1kW/0.01kW/0.001kW, accuracy: 0.3%×Full range value							
	Frequenc	cy stability		(11)(41)	01%						
	0.0000	ortion degree		Linear load	THD<1%						
		nse time		1r	ns						
AC	730000		1ms Three-phase standard mode: 120°±2°								
utput	Three-phase p	hase difference	Three-phase unbalanced mode: 0.0°-359.9°, adjustable by 0.1°								
	Phase voltage peak factor				±0.1						
	Source voltage effect			5,550	02%						
	7470-014.W	effect		10203	02%						
	Load	ellect			ut will be stopped within 600s;						
				A CARLO CONTRACTOR CON	out will be stopped within 60s;						
	Overload capability			120% <output≤150% 2s;<="" be="" output="" stopped="" td="" the="" will="" within=""></output≤150%>							
				The second of th							
			150% <output be="" current,="" igbt="" immediately="" input="" output="" over="" overheat,="" stopped="" td="" the="" transformer="" under="" voltage,<="" will=""></output>								
	Destant		Input over voltage, bus anti-recharge, Output under voltage, Output over voltage,								
	Protection	on device	176-176-176-176-176-176-176-176-176-176-	TANK A TANK							
	124000	Marie William	140000000000		t, Output over load, Output shor	Construction Country					
	WARRANA WAR	y mode	come on the street Heavy	an the U.S. of the William In Control of the	touch control operation support	and the second second second second					
		vaveform			2-50 times harmonics), and inte	Name (Name and Associated States and Associa					
	7 MARCH 1907	nt mode	Yes, Voltage	#2194 975 1876 2175 A 1999 94 1 (1995 99) AND 1911 2 (24) A 100	to low voltage or low voltage to l	high voltage					
	T TOWN A MANAGEMENT OF THE	r mode		Yes, call of any group of flicker	parameters from Group 1~39.						
	100000000000000000000000000000000000000	rero) voltage	Yes, th	e standard curve can be called	or customized as required for th	ne user					
unc-	crossin	g mode	04.000								
tion	Unbalan	ced mode	Y		age/phase difference separately	4					
					ree-phase unbalance	and the continue of the contin					
	Programm	ning mode	200 steps of	g99999 cycles, voltage/frequen	cy/phase angle programmed fre	ely for output					
	Startup ra	mp-up time		0.0-9	99.9s						
	Online a	djustment		Online adjusting of output	ut voltage/frequency and						
	1,00000	ction		switch of wave	in normal mode						
	Memory	function	Powe	er down memory function, memory	ory last output mode and param	eters.					
	Communica	tion interface	RS485 (standard), Ethe	ernet (standard), synchronous s	ignal (standard), RS232 (option	al) and GPIB (optional)					
viron- nent	Temperature	and humidity		0-40℃, 2	0-90%RH						
	Dimensions(W×	H×D mm)	1200 × 1900 (including a base height of 100) × 1000	1500 × 1900 (including a b	ase height of 100) × 1000	2000 × 1900 (including a base heigh of 100) × 1400					

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

Exceeding & Trustworthy

# Specifications

	M	odel	ANBGS400T-900(F)	ANBGS500T-900(F)	ANBGS600T-900(F)	ANBGS750T-900(F)	ANBGS1000T-900(F)	ANBGS1200T-900/F		
		pacity	400KVA	500KVA	600KVA	750KVA	1,000KVA	1,200KVA		
		tage	3-pha	ase 3-wire: Phase vo	Itage 220V±33V. line v	oltage 380V±57V. a	and frequency 50/60Hz:			
Input	2049 (1945)	k function			as the function of ener					
para-	T 200 70	wer factor		5000	ted voltage input and					
meter	16.0	nt distortion			<3% (under rat	SC 10 (1992) 100	7			
	18190 1	t mode		Three-pha	se standard mode and	AND 10 10 10	anced mode			
	200000	d frequency		1001	e voltage: 0.0-900.0V:		MANUFACTOR CO.			
	Rated current	The state of the s								
	Setting	Voltage			olution: 0.01V, accurac			1,201.2A		
	accuracy	Frequency		3,100	Resolution: 0.001H.					
	docuracy	Voltage		Resolution: 0.01V, accuracy: 0.1%×Full range value						
	Measurement	Frequency		Resolution: 0.001HZ, accuracy: 0.01%						
	accuracy	Current		Reso	lution: 0.1A/1A, accura	The second of the second	e value			
	accuracy	Power		1000 TOTAL TOTAL	.1kW/0.01kW/0.001kV	100000000000000000000000000000000000000				
1	Fraguen	cy stability		resolution, o.	≤0.0	est ones	uli range value			
		ortion degree			Linear load	**************************************				
	2244	nse time			(8)	ns				
AC	rtespoi	ise unie			1,000 (7)					
output	Three-phase p	ohase difference		Three-phase standard mode: 120°±2°  Three-phase unbalanced mode: 0.0°-359.9°, adjustable by 0.1°						
	Dhana unitar	an monte fantas		1.41±0.1						
	T 2222222222	ge peak factor			7500	12/10/4				
	N 100000 at 1	ltage effect				02%				
	Load	effect		1000/ -/		)2%				
					Output≤110% the output					
	Overload capability			110% <output≤120% 60s;<="" be="" output="" stopped="" td="" the="" will="" within=""></output≤120%>						
			120% <output≤150% 2s;<="" be="" output="" stopped="" td="" the="" will="" within=""></output≤150%>							
				150% <output be="" current="" igrt="" immediately="" input="" output="" over="" overheat="" stopped="" td="" the="" transformer="" under="" voltage<="" will=""></output>						
	2000000	sometimes and	IGBT overheat, IGBT over current, Transformer overheat, Input under voltage,							
	Protection	on device	Input over voltage, bus anti-recharge, Output under voltage, Output over voltage,							
	Law ner	Whose service		Output lack phase, Output over current, Output over load, Output short circuit						
	The second second	y mode	10.1-inch large color LCD with touch control operation support							
		waveform					cs), and interharmonics	0		
	A STATE OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF T	ent mode	)	es, Voltage steps (s	ag) from high voltage	to low voltage or low	v voltage to high voltage	•		
	CANADA AND AND AND AND AND AND AND AND AN	r mode		Yes, call	of any group of flicker	parameters from G	roup 1~39.			
	High/low (a	zero) voltage		Yes, the standar	d curve can be called	or customized as re	quired for the user			
Func-	crossir	ng mode		Theoret Seesan Towns						
tion	Unbalan	ced mode		Yes, adjust	table three-phase volta		CONTRACTOR CONTRACTOR OF THE C			
	NAME AND ADDRESS OF THE OWNER, AND ADDRESS OF THE OWNER, AND ADDRESS OF THE OWNER, ADDRE				or direct setting of the		50°C			
	Programm	ning mode	20	0 steps of g99999 cy			rammed freely for outp	ut		
	010000000000000000000000000000000000000	mp-up time			0.0-9	RENOTES AND ADMINISTRATION OF THE PERSON OF				
	Online adjustment			Or	nline adjusting of outpu		and			
	2777	ction	switch of wave in normal mode							
	//////////////////////////////////////	/ function		The Market Market Control of the Con	emory function, memo		TILL OF THE STATE			
Cardera	Communica	ition interface	RS485 (star	idard), Ethernet (star	ndard), synchronous s	ignal (standard), RS	232 (optional) and GPI	B (optional)		
Environ- ment	Temperature	and humidity			0-40°C, 2	0-90%RH				
			2000 ×	1900	3500	× 1900	4000	× 2100		
	Dimensions(W	·H×D mm)	(including	g a base	(includin	ig a base	(includi	ng a base		
			height of 10	0) × 1400	height of 1	00) × 1400	height of	100) × 1400		

# AC Power Supply \\ Ainuo

# Constant Current AC Power Supply ANCC(F) Series



#### Product Introduction

The ANCC(F) Series Constant Current AC Power Supply adopts FPGA digital control, instantaneous waveform control, high-frequency pulse width modulation (SPWM) technology, etc. It has the advantages of fast response speed, high output accuracy, superior waveform quality, strong load adaptability, etc. The power supply is capable of outputting a constant current alternating waveform with strong load adaptability.

Featuring an 8-inch color LCD, the product has an exquisite and high-end appearance, coupled with number keys for more convenient operation. Under the condition of low voltage, it can output a constant large current, meeting the low-voltage distribution device inspection such as air switches, contactors, and transformers, and the design and production verification of transformers and inductors. It is ideal testing equipment for device manufacturers, quality inspection centers, and certification centers, which can reduce energy waste caused by load consumption under large current test conditions.

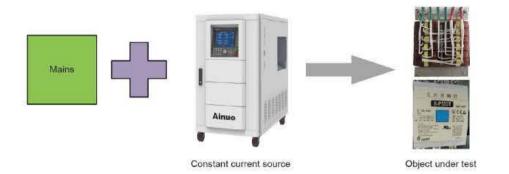
#### Features

- It adopts FPGA digital technology for precise control and high-quality sine wave output.
- It provides low voltage and large current AC output, meeting the test requirements of relevant regulations.

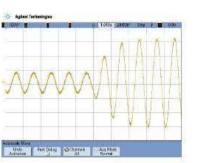
- It has the "Black box" function: automatically record power supply status, alarm codes, etc., and other information to greatly reduce maintenance time.
- The fan speed is automatically adjusted according to the power supply temperature, reducing noise.
- It adjusts voltage and frequency under output state with immediate frequency change without transition time.
- Its output frequency ranges from 45 to 65Hz, adapting to the test requirements of different grids and devices.
- It has complete measurement functions: voltage, current, current peak value, frequency, active power, apparent power, power factor, and voltage peak factor.
- It has the online monitoring function: monitor parameters such as IGBT temperature, transformer temperature, fan speed, and input voltage under output state.
- It provides a Lock key, with a user-friendly design that automatically locks after 5 minutes of inactivity to prevent misoperation.
- It features an 8-inch large screen color LCD display and number key operation.
- It is equipped with a standard RS232 communication interface and can be optionally equipped with RS485, GPIB, Ethernet communication interfaces or analog control mode.
- It can be customized to adopt current sources of any voltage level and current range.

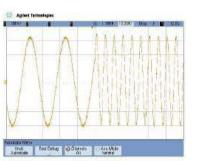
# Applications

It replaces traditional voltage and current regulation methods, with precise control and simple operation.



Adjusting current and frequency in output state.





Large screen, number key input and knob operation.







# Ainuo // AC Power Supply

# Specifications

	- 11	Model	ANCC1000-15S(F)	ANCC2000-15S(F)	ANCC4000-7.5S(F)	ANCC4000-15S(F)				
	C	apacity	15 kVA	30 kVA	30 kVA	60 kVA				
	9	Phase		3-phase 4	1-wire+PE					
nput	٧	/oltage		Phase voltage: 220V±33V, line voltage: 380V±57V						
	Fre	equency		50/60	Hz±3Hz					
	Phase			Single-phase	and two-wire					
		Current	10-1000A	20-2000A	40-4000A	40-4000A				
	٧	/oltage	15V	15V	7.5∨	15V				
	Frequency			45.0-6	65.0Hz					
	Current		Reso	Resolution: 0.1A, accuracy: 0.3%×Reading value+0.3%×Full range value						
Output	Testing	Frequency		Resolution: 0.1Hz, accuracy: 0.1%						
	accuracy	Voltage	Resol	Resolution: 0.01V, accuracy: 0.3%×Reading value+0.3%×Full range value						
		Power	Resolution: 0.1kW/0.01kW,0.001kW, accuracy: 0.45%*Reading value+0.45%*Full range value							
	Frequency stability			≤0.02%						
	Voltag	ge distortion	Linear load THD < 2%							
	Voltage	e crest factor	1.41±0.1							
	Prote	ction mode	IGBT overheat, IGBT overcurrent, transformer overheat, input overvoltage,							
			input un	input undervoltage, output overvoltage, output overcurrent, and output overload						
	t	Display		8-inch LCD						
Fun-	Online adj	ustment function		Output current and freque	ncy can be adjusted online					
ction	ħ.	Memory	Power-off mer	Power-off memory function. Capable of remembering the last output mode and parameters						
	Com	munication	RS232 (standard) and RS485 (optional)							
Ope- rating	Ten	nperature		0.4	10 C					
enviro- nment	н	lumidity		20-9	0%RH					
D	imensions(W×	H×D mm)		600×1130×1018		700×1330×1218				

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

# Ainuo Product Catalogue DC Power Supply



DC Voltage-stabilized Power Supply AN50(F) Low Power Series



Programmable DC Power Supply AN51(F) Series



Wide Range Programmable DC Power Supply AN53(F) Series



Programmable Bidirectional DC Power Supply ANEVH(F) Series



High Power Bidirectional DC Power Supply ANEVT(F) Series



Dual-channel Bidirectional DC Power Supply ANEVT DA(F) Series



Battery Simulator ANEVS(F) Series



Dual-channel Battery Simulator ANEVS DA(F) Series

Exceeding & Trustworthy

AN5010-100(F): 10V/100A/1000W

AN5035-100(F): 35V/100A/3000W

AN50120-12(F): 120V/12.5A/1500W

AN50120-25(F): 120V/25A/3000W

AN50300-10(F): 300V/10A/3000W

AN50300-5(F): 300V/5A/1500W

AN5035-30(F): 35V/30A/1000W

AN5035-50(F): 35V/50A/1500W

AN5060-25(F): 60V/25A/1500W

AN5060-50(F): 60V/50A/3000W

Ordering and function expansion

AN5080-75(F): 80V/75A/6000W

AN5080-125(F): 80V/125/10000W

AN5080-250(F): 80V/250A/20000W

DC Power Supply \\

AN50120-80(F): 120V/84A/10000W

AN50120-165(F): 120V/167A/20000W

AN50300-20(F): 300V/20A/6000W

AN50300-30(F): 300V/34A/10000W

AN50300-65(F): 300V/67A/20000W

AN50600-10(F): 600V/10A/6000W

AN50600-17(F): 600V/17A/10000W

AN50600-30(F): 600V/34A/20000W

AN50700-9(F): 700V/9A/6000W

AN50700-14(F): 700V/14.5A/10000W

AN50700-29(F): 700V/29A/20000W

AN501200-17(F): 1200V/17A/20000W

AN501400-14(F): 1400V/14A/20000W



Ainuo // DC Power Supply

AN50(F) Low Power Series

DC Voltage-stabilized Power Supply

# **Product Overview**

AN50(F) small power series DC power supply adopts high-frequency PWM control and full-bridge converter technology to be featured by fast dynamic response, strong overcurrent capability, and low output ripple. It has the advantages of small size, low weight, low noise, high efficiency and simple operation, making it a cost-effective power supply. It can be used for the manufacturing, testing, and maintenance of military electronic equipment such as motors, power tools, automotive electronics, breaking-closing coils, DC switches, aircraft and airborne equipment, radar and navigation, while being used in industrial and mining enterprises, college laboratories, research institutes, among others.

## Features

- The full range of standard chassis, with a depth of only 350mm, is suitable for system integration and portable applications
- The adopted high-frequency PWM and full-bridge converter technology makes the whole machine become more
- It supports up to 110% current/power overload.
- It also has excellent output stability.
- The lead voltage drop compensation terminal enables output lead voltage drop compensation for high-current operation.

- The complete protection function can ensure the normal operation of the power supply equipment and the safety of the load.
- The Nixie tube display is available. It is simple, intuitive and user-friendly.
- It supports SCPI, MODBUS-RTU standard communication protocols.

## **Specifications**

Model		AN5010-100(F)	AN5035-30(F)	AN5035-50(F)	AN5035-100(F)	AN5060-25(F)	AN5060-50(F)				
Input Power S	upply	Single phase, 220V±22V, 47-63Hz									
	Voltage	0~10V		0~35V		0~	60V				
Output	Current	0~100A	0~30A	0~50A	0~100A	0~25A	0~50A				
	Power	0~1000W	0~1000W	0~1500W	0~3000W	0~1500W	0~3000W				
Resolution and	Voltage	W	Resolution 0.001V (0.01V when ≥ 10V), accuracy ≤ 0.4%Umax								
accuracy	Current	Resolution 0.001A (0.01A when ≥ 10A), accuracy ≤ 0.5%Imax									
ipple and Noise	Vrms		30mV				mV				
20Hz~20MHz	Vpp		200	300mV							
Effect	Voltage	Load effect ≤0.1%Umax, source effect ≤0.05%Umax									
Ellect	Current	Load effect ≤0.2%Imax, source effect ≤0.1%Imax									
Transient respor	se time	≤5ms									
Maximum lead	2,500 CO 1800			21	2V						
Communication	function	RS-232 (standard)/RS485 (optional)									
Protection fur	nction	Output short-circuit protect	Output short-circuit protection, output overvoltage, internal overheating protection, S-terminal over-compensation protection, S-terminal reversal protection								
Analog interface(optional)		Start, stop, alarm, 0-5V/0-10V or 4-20mA analog control output									
Working Environment		Temperature: 0~40℃; Humidity: 20~90%RH									
Volume W×H×I	D(mm)	210×133	×325	10	440×13	3×350					
Weight		6kg		9kg	12kg	9kg	12kg				

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

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Model		AN50120-12(F)	AN50120-25(F)	AN50300-5(F)	AN50300-10(F)		
Input Power S	Supply		Single phase, 220	V±22V, 47-63Hz			
	Voltage	0~12	20V	0~300V			
Output	Current	0~12.5A	0~25A	0~5A	0~10A		
	Power	0~1500W	0~3000W	0~3000W 0~1500W			
Resolution/	Voltage	ν.	Resolution 0.001V/0.01V/0.1	V, accuracy ≤ 0.4%Umax			
Accuracy	Current		Resolution 0.001A/0.01A	accuracy ≤ 0.5%lmax			
Ripple and Noise	Vrms	80m	v	100mV			
20Hz~20MHz	Vpp	400mV		500mV			
Load effect	Voltage	Load effect ≤0.1%Umax, source effect ≤0.05%Umax					
Load ellect	Current	Load effect ≤0.2%lmax, source effect ≤0.1%lmax					
Transient respon	nse time	≤5ms					
Maximum lead drop compens			10\	!			
Communication	function	RS-232 (standard)/RS485 (optional)					
Protectio	n	Output short-circuit protection, output overvoltage, internal overheating protection, S-terminal over-compensation protection, S-terminal reversal protection					
Analog interface(optional)		Start, stop, alarm, 0-5V/0-10V or 4-20mA analog control output					
Working Environment		Temperature: 0~40 C; Humidity: 20~90%RH					
Volume W×H×	D(mm)	440×133×350					
Weight	i i	9kg	12kg	9kg	12kg		

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

# Specifications

Exceeding & Trustworthy

Mod	del	AN5035-170(F)	AN5035-285(F)	AN5035-570(F)	AN5080-75(F)	AN5080-125(F)	AN5080-250(			
	Phase			Three-	nhase					
Input	number		1) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
mpat	Voltage	380V±38V								
	Frequency	47-63HZ								
	Voltage		0~35V							
Output	Current	0~172A	0~286A	0~572A	0~75A	0~125A	0~250A			
	Power	0~6KW	0~10KW	0~20KW	0~6KW	0~10KW	0~20KW			
Display	mode	5-bit Nixie tube display								
Voltage re	solution			0.01V (0.1V v	/hen ≥ 100V)					
Curr	ent			0.014 (0.14	hon > 100A)					
resolu	resolution			0.01A (0.1A w	nen z 100A)					
Setting error Voltage (programming				≤0.2%	Umax					
accuracy)	Current			≤0.2%	ilmax					
Measurement error (readback	Voltage		≤0.2%Umax							
accuracy)	Current		≤0.2%lmax							
Ripple and noise	Vms		60mV							
20Hz-20MHz	Vpp	500mV								
	Voltage			≤0.1%	Umax					
Load effect	Current			≤0.2%	ilmax					
	Voltage	≤0.05%Umax								
Source effect	Current	≤0.1%lmax								
Transient res	sponse time	≤2ms (50%-100%, or 100%-50%, error returns to 0.75% of stable value)								
	Voltage	0.05% setting value								
emperature drift	Current	0.05% setting value								
Nois	se	≤68dB (A)								
Scope o	of OVP	110%F.S								
Maximum lead dro	p compensation	2V								
Communicati	ion function		RS	S-232 (standard)/485 (s	standard)/LAN (standa	ard)				
Protection	functions	Short-circuit protection, reverse protection, output overvoltage, current-limiting protection, internal overheating protection,  S-terminal over-compensation protection								
Analog interfa	ce (optional)		Start	, stop, alarm, 0-5V or 0	-10V analog control o	output				
Efficie				≥85	77.7					
Operating to				0~4	<b>0</b> °C					
Storage ter	mperature			-20~	70°C					
Humidity				<80%, without	condensation					
Volu	me			444*132.	5*641mm					
Weig	ght	24kg	24kg	34kg	23.5kg	23.5kg	33kg			
Rema	arks	2. Time red		hange from 100% to 5	24kg 24kg 34kg 23.5kg 23.5kg 33kg  1. Programming accuracy/read-back accuracy test condition (25 C±5 C);  2. Time required for the load to change from 100% to 50% or in reverse, and for the output voltage to return to within "rated value±100mV"					



Mod	del	AN50120-50(F)	AN50120-80(F)	AN50120-165(F)	AN50300-20(F)	AN50300-30(F)	AN50300-65(F)				
	Phase	100//000	2 1/1	TL	il.		1,000				
TAXABLE PARTY.	number		Three-phase								
Input	Voltage			380V:	£38V						
	Frequency	47-63HZ									
	Voltage		0~120V								
Output	Current	0~50A	0~84A	0~167A	0~20A	0~34A	0~67A				
	Power	0~6KW	0~10KW	0~20KW	0~6KW	0~10KW	0~20KW				
Display	mode	5-bit Nixie tube display									
Voltage re	esolution			0.01V (0.1V w	hen ≥ 100V)						
Curr	rent			0.044./0.44							
resolu	ution			0.01A (0.1A w	nen ≥ 100A)						
Setting error Voltage (programming				≤0.2%	Umax						
accuracy)	The second secon										
Measurement error (readback	Voltage			≤0.2%	Umax						
accuracy)	Current			≤0.2%	lmax						
Ripple and noise	Vrms			80r	nV						
20Hz-20MHz	Vpp		500mV								
Load effect	Voltage		≤0.1%Umax								
	Current			≤0.2%	Victorian Control Control						
	Voltage	≤0.05%Umax									
Source effect	Current			≤0.1%	lmax						
Transient res	ponse time 2		≤2ms (50%-1	00%, or 100%-50%, en	or returns to 0.75% o	f stable value)					
	Voltage	0.05% setting value									
Temperature drift	Current	0.05% setting value									
Noi	se	≤68dB (A)									
Scope o	of OVP			110%	6F.S						
Maximum lead dro	op compensation			10	V						
Communicat	ion function		R	6-232 (standard)/485 (s	tandard)/LAN (standa	rd)					
Protection	functions			n, reverse protection, or leating protection, S-ter							
Analog interfa	ace (optional)		Start	, stop, alarm, 0-5V or 0	-10V analog control o	utput					
Efficie	ency		77.00	≥85	5%	SALES .					
Operating to	emperature			0~4	o C						
Storage ter	mperature			-20~	70°C						
Humi	idity			<80%, without	condensation						
Volu				444*132.5	Choles and the Children						
Wei	ght	22kg	22kg	30kg	22kg	22kg	30kg				
Rema	*1007	1.Programming accuracy/read-back accuracy test condition (25 C ±5 C);  2.Time required for the load to change from 100% to 50% or in reverse, and for the output voltage to return to within "rated value±100mV"									

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

# Specifications

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Mod	del	AN50600-10(F)	AN50600-17(F)	AN50600-30(F)	AN50700-9(F)	AN50700-14(F)	AN50700-29(F			
	Phase			Three-	phase					
Input	number			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	pridoc					
(C. 1625)2.4	Voltage	380V±38V								
	Frequency	47-63HZ								
979300 AA	Voltage		0~600V			0~700V				
Output	Current	0~10A	0~17A	0~34A	0~9A	0∼14.5A	0~29A			
	Power	0~6KW	0~10KW	0~20KW	0~6KW	0~10KW	0~20KW			
Display	mode	5-bit Nixie tube display								
Voltage resolution		0.01V (0.1V when ≥ 100V)								
Current resolution				0.01A (0.1A w	hen ≥ 100A)					
Setting error Voltage (programming				≤0.2%	Umax					
accuracy)	Current			≤0.2%	ilmax					
Measurement error (readback	Voltage			≤0.2%	Umax					
accuracy)	Current			≤0.2%	lmax					
Ripple and noise	Vrms			200	mV					
20Hz-20MHz	Vpp	1000mV								
1	Voltage			≤0.1%	Umax					
Load effect	Current			≤0.2%	Imax					
Source effect	Voltage	≤0.05%Umax								
Source ellect	Current		≤0.1%lmax							
Transient resp	ponse time 2	≤2ms (50%-100%, or 100%-50%, error returns to 0.75% of stable value)								
ommosoturo dei A	Voltage	0.05% setting value								
emperature drift	Current	0.05% setting value								
Nois	se:	≤68dB (A)								
Scope o	f OVP			1109	6F.S					
Maximum lead dro	p compensation			10	V					
Communicati	on function	RS-232 (standard)/485 (standard)/LAN (standard)								
Protection	functions	Short-circuit protection, reverse protection, output overvoltage, current-limiting protection, internal overheating protection, S-terminal over-compensation protection								
Analog interfa	ce (optional)		Start	, stop, alarm, 0-5V or 0	-10V analog control o	output				
Efficie	incy			≥85	5%					
Operating te	emperature			0~4	0.C					
Storage ter	mperature			-20~	70 C					
Humi	dity			<80%, without	condensation					
Volum				444*132.5	5*641mm					
Weig	ght	21kg	21kg	28.5kg	21kg	21kg	28.5kg			
Rema	0.00	1.Programming accuracy/read-back accuracy test condition (25 C±5 C); 2.Time required for the load to change from 100% to 50% or in reverse, and for the output voltage to return to within "rated value±100mV"								

Mod	del	AN501200-17(F)	AN501400-14(F)			
	Phase number	Thr	ree-phase			
Input	Voltage	38	30V±38V			
		47-63HZ				
	Frequency	0∼1200V	0~1400V			
Output	Voltage Current	17A	505 (6058)			
Output	Power	0~20KW	14.5A 0~20KW			
Display						
Voltage re	7.17511000000	5-bit Nixie tube display  0.01V (0.1V when ≥ 100V)				
Voltage re		0.017 (0.1	v when 2 100v)			
resolu	No. 17	0.01A (0.1/	A when ≥ 100A)			
Setting error Voltage (programming		≤0.	2%Umax			
accuracy)	Current	≤0	.2%Imax			
Measurement error (readback	Voltage	≤0.	2%Umax			
accuracy)	Current	≤0.2%lmax				
Ripple and noise	Vrms	400mV				
20Hz-20MHz	Vpp	2000mV				
Load effect	Voltage	≤0.	1%Umax			
Current		≤0	.2%lmax			
Source effect	Voltage	≤0.05%Umax				
Source ellect	Current	≤0.1%lmax				
Transient res	ponse time	≤2ms (50%-100%, or 100%-50%, error returns to 0.75% of stable value)				
Temperature drift	Voltage	0.05% setting value				
Tomporator and	Current	0.05% 8	setting value			
Nois	se	≤6	58dB (A)			
Scope o	fOVP		10%F.S			
Maximum lead dro	p compensation	3	28.5V			
Communicati	on function	RS-232 (standard)/48	5 (standard)/LAN (standard)			
Protection	functions		ection, output overvoltage, current-limiting ion, S-terminal over-compensation protection			
Analog interfa	ce (optional)	Start, stop, alarm, 0-5V o	or 0-10V analog control output			
Efficie	ncy		≥85%			
Operating te	emperature	(	0~40°C			
Storage ter	mperature	-2	20~70 °C			
Humi	dity	<80%, with	out condensation			
Dimensions(W	√×H×D mm)	444*	132.5*641			
Weig	ght	28.5kg	28.5kg			
Rema	arks	Programming accuracy/read-back accuracy test condition (25 C±5 C);      Time required for the load to change from 100% to 50% or in reverse, and for the output voltage to return to within "rated value±100mV"				

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

Exceeding & Trustworthy

# Programmable DC Power Supply AN51(F) Series

Exceeding & Trustworthy



#### Product Introduction

The AN51(F) low-power series DC power supply adopts high-frequency PWM control and phase-shifted full-bridge conversion, fast dynamic response, strong over-current capability, low output ripple, featuring compact, light, quiet, high efficiency, simple operation and cost-effective. It can be used for manufacturing, testing and maintenance of military electronic equipment such as motors, power tools, automotive electronics, chips and electronic components, switching coils and DC switches, aircraft and airborne equipment, radar, navigation, etc., as well as industrial and mining enterprises, colleges and universities laboratories, research institute, etc.

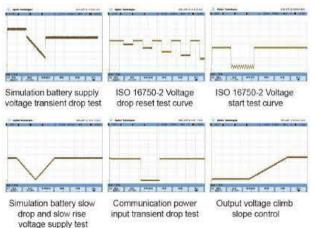
### Features

- Colorful LCD display, digital keys, Convenient and easy for operation.
- 350mm deep full range of standard chassis, suitable for system integration and portable applications.
- High frequency PWM and full-bridge conversion technology, with high efficiency.
- Strong current/power overload capacity, up to 110%.
- Exceptional output stability.
- Voltage drop compensation terminal for large current output.
- Complete protection to ensure normal operation of power supply unit and load security.

#### Order and extensions

AN5135-50(F): 35V/50A/1.5kW AN5135-100(F): 35V/100A/3kW AN5160-25(F): 60V/25A/1.5kW AN5160-50(F): 60V/50A/3kW AN51120-12(F): 120V/12.5A/1.5kW AN51120-25(F): 120V/25A/3kW AN51300-5(F): 300V/5A/1.5kW AN51300-10(F): 300V/10A/3kW

Powerful programming features to customize the output waveform.



Model		AN5135-50(F)	AN5135-100(F)	AN5160-25(F)	AN5160-50(F)			
Input			Single phase, 220	V±22V, 47-63Hz				
	Voltage	0~3	95V	0~60V				
Output	Current	0~50A	0~100A	0~25A	0~50A			
	Power	0~1500W	0~3000W	0~1500W	0~3000W			
Resolution/	Voltage		Resolution 0.01V, Accuracy≤0.2%Umax					
Accuracy	Current	Resolution 0.01A, Accuracy≤0.35%Imax						
Ripple and Noise	Vrms	30n	nV	60r	mV			
20Hz~20MHz Vpp		200r	mV	300mV				
Effect	Voltage		Load effect≤0.1%Umax, S	ource effect≤0.05%Umax				
Ellect	Current		Load effect≤0.2%lmax, Source effect≤0.1%lmax					
Transient respor	nse time	≤5ms (50%-100%, or 100%-50%, error returns to 0.75% of stable value)						
Rise time 10	10%	On line voltage adjustment: 50ms (10%-90%); Start slow rise time: 1S						
Communica	tion	RS-232 (Standard) /485(Optional) / Analog interface (Optional)						
Protection	n	Output short circuit protection ;output overvoltage, overheat, S-terminal over compensation protection, S-terminal reversal protection						
List test fund	tion	Capable of storing 50 sequences, each sequence contains 20 steps,						
(Optional)		each step of the function can be set independently, a total of 13 independent functions.						
Environment		Temperature: 0~40℃; Humidity: 20~90%RH						
Dimension W×H	×D(mm)	4	440×13	3×350				
Weight		9kg	13.5kg	9kg	13.5kg			

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

Model		AN51120-12(F)	AN51120-25(F)	AN51300-5(F)	AN51300-10(F)			
Input			Single phase, 220	V±22V, 47-63Hz				
	Voltage	0~120\	/	0~300V				
Output	Current	0~12.5A	0~25A	0∼5A	0~10A			
	Power	0~1500W	0~3000W	0~1500W	0~3000W			
Resolution/	Voltage	Resolution: 0.1V/0.01V, Accuracy≤0.2%Umax						
Accuracy	Current	Resolution: 0.01A, Acc	uracy≤0.35%lmax	Resolution: 0.001A, Accuracy≤0.35%Im				
Ripple and Noise	Vrms	80mV		100mV				
20Hz~20MHz	Vpp	400mV		500mV				
Effect	Voltage		Load effect≤0.1%Umax, Source effect≤0.05%Umax					
Ellect	Current	Load effect≤0.2%lmax, Source effect≤0.1%lmax						
Transient respor	nse time	≤5ms (50%-100%, or 100%-50%, error returns to 0.75% of stable value)						
Rise time 10	00%	On line voltage adjustment: 50ms (10%-90%); Start slow rise time: 1S						
Communica	ition	RS-232 (Standard) /485(Optional) / Analog interface (Optional)						
Protection	n	Output short circuit protection ,output overvoltage, overheat, S-terminal over compensation protection, S-terminal reversal protection						
List test fund	ction	Capable of storing 50 sequences, each sequence contains 20 steps,						
(Optional)		each step of the function can be set independently, a total of 13 independent functions.						
Environment		Temperature: 0~40℃; Humidity: 20~90%RH						
Dimensions(W×H	l×D mm)		440×13	3×350				
Weight		9kg	13.5kg	9kg	13.5kg			

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

# Wide Range Programmable DC Power Supply AN53(F) Series

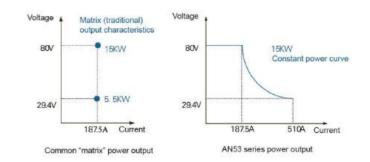


#### Product Introduction

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The AN53(F) Series Wide Range Programmable DC Power Supply adopts active power factor correction technology and high-frequency LLC multi-resonant soft switching inverter technology. It features high power factor, fast dynamic response, low output ripple, and high power density. It has the characteristic performance of constant power wide-range output, as well as advantages such as small size, light weight, low noise, high efficiency, and simple operation.

The AN53(F) Series expands the power output curve, providing users with a wider range of voltage and current combinations, making it more flexible than traditional "matrix" output range power supplies. The output range of a single constant power DC power supply may be several times that of a conventional rectangular power supply. For example, the AN53(F) Series 1500V/40A/5kW model can provide an output of 1500V 10A at 15kW power, or 375V 40A output. In comparison, for a traditional "matrix" output power supply, the output specification is 1500V/10A/15kW, and when the output voltage is 375V, the maximum current is still 10A, with a power of only 3.75kW.



The AN53(F) Series simulates the output characteristics of solar batteries, with fast response, stable and accurate I-V curve simulation capability. It comes with built-in standard models such as SAS, EN50530, and Sandia lab for single unit operation, allowing precise simulation of photovoltaic I-V curves. Additionally, users can edit the parameters of solar battery panels through upper computer software or download a set of 1024-point V&I data into the power supply for operation, supporting dynamic, shading, and other operation modes.

DC Power Supply

As a programmable power supply, the AN53(F) Series supports multiple communication interfaces and complies with the SCPI standard protocol, making it easy to understand and program control.

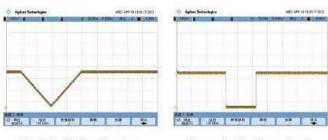
#### Features

- It has the wide-range output capability, expanding the output range to 3 times that of "matrix" power supplies at the same power level.
- It utilizes active power factor correction technology, with full load power factor exceeding 0.99.
- It uses high-frequency LLC multi-resonant inversion, achieving a high overall efficiency of up to 0.95.
- It boasts the industry's best transient response speed.
- It features three working modes: constant voltage, constant current, and constant power, meeting a wide range of test requirements.
- It has powerful programmable functions and flexible settings.



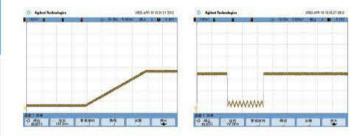
Simulation Battery Supply Voltage Sudden Drop Test





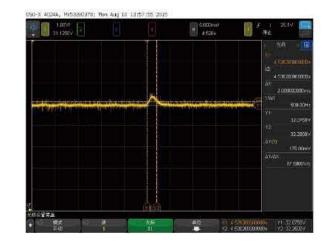
Simulation Battery Slow Drop and Slow Rise Supply Voltage Test

Communication Power Supply Input Sudden Drop Test



Output Voltage Rise Rate Test

ISO16750-2 Startup Voltage Curve Test



Photovoltaic Simulation Function



SAS Model Interface

Photovoltaic SAS Simulation Function

Exceeding & Trustworthy

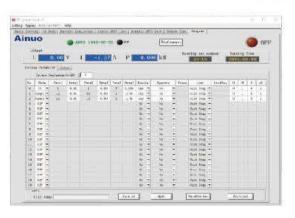
SandiaLab Model



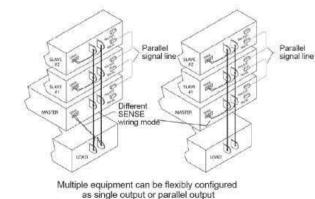
EN50530 Model Interface

Dynamic MPPT

EN50530 Dynamic Simulation



- Built-in precise voltage and current measurement, excellent output stability.
- Lead drop compensation terminal to compensate for lead drop compensation during high current operation.
- Comprehensive protection functions to ensure the normal operation of power supply equipment and the safety of loads.
- High-brightness color LCD with exquisite appearance and simple and intuitive operation.
- It supports multiple units for parallel output to expand power/current range.



# Specifications

Model		AN5380-120S(F)	AN5380-170S(F)	AN5380-170(F)	AN5380-340(F)	AN5380-510(F)			
To the	Voltage	Single phase+Pt	E, 198V-242VAC	Three-ph	nase three-wire+PE, 340V-	420VAC			
Input	Frequency		,	47-63Hz					
	Voltage			0-80V		0			
Output	Current	0-120A	0-170A	0-170A	0-340A	0-510A			
	Power	0-1.8KW	0-3KW	0-5KW	0-10KW	0-15KW			
Display mod	de		4.3-inch color LCD						
Measurement error	Voltage		≤0	.05%Umax, resolution 0.01	V				
	Current		≤0.1%Irmax, resolution 0.01A (>1000A, 0.1A)						
readback accuracy)	Power		≤1%Pmax, resolution 0.001kW (>100kW, 0.01kW)						
Ripple and Noise 20Hz-20MHz	Vrms	30	mV		40mV				
	Vpp	200mV 250mV							
Load effec	t	Voltage≤0.01%Umax, current≤0.05%lmax							
Power effect	ot	Voltage≤0.01%Umax, current≤0.01%lmax							
Transient respon	se time	≤2ms							
Maximum lead drop co	ompensation		6.5V						
Communication contr	rol interface		Standard: RS232, RS485,	CAN, and LAN, optional: G	PIB, analog port, and USE	3			
Protection functions		Input undervoltage protection, short-circuit protection, reverse connection protection, output overvoltage and current-limiting protection, overheating protection, and S-terminal compensation function							
Parallel connection function			It supports multiple units	for parallel output to expan	nd power/current range.				
Working enviror	nment		Temper	ature 0-40 °C; Humidity 20-	90%RH				
Dimensions(W×H	×D mm)	440×1	33×350		440×133×600				
Weight		16	ikg	17kg	27kg	37kg			

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

Model		AN53300-15S(F)	AN53300-30S(F)	AN53300-50(F)	AN53300-100(F)	AN53300-150(F)		
News A	Voltage	Single phase+Pt	E, 198V-242VAC	Three-p	hase three-wire+PE, 340V	420VAC		
Input	Frequency			47-63Hz				
	Voltage			0-300V				
Output	Current	0-15A	0-30A	0-50A	0-100A	0-150A		
	Power	0-1.8kW	0-3kW	0-5kW	0-10kW	0-15KW		
Display mo	de			4.3-inch color LCD				
Measurement error			≤0	05%Umax, resolution 0.0	1V			
	Current	≤0.1%lmax, resolution 0.01A (>1000A, 0.1A)						
(readback accuracy)	Power	≤1%Pmax, resolution 0.001kW (>100kW, 0.01kW)						
Ripple and Noise	Vrms	60mV						
20Hz-20MHz	Vpp			450mV				
Load effec	t	Voltage≤0.01%Urnax, current≤0.05%lmax						
Power effec	ot	Voltage≤0.01%Umax, current≤0.01%lmax						
Transient respon	se time	≤2ms						
Maximum lead drop co	ompensation			6.5V				
Communication contr	rol interface	\$	Standard: RS232, RS485, CAN, and LAN, optional: GPIB, analog port, and USB					
Protection functions		Input undervoltage protection, short-circuit protection, reverse connection protection, output overvoltage and current-limiting protection, overheating protection, and S-terminal compensation function.						
Parallel connection	function	111	It supports multiple units	for parallel output to expa	nd power/current range.			
Working environ	nment		Temper	ature 0-40 C; Humidity 20	90%RH			
Dimensions(W×H	×D mm)	440×133	3×350		440×133×600			
Weight		16k	g	17kg	27kg	37kg		

Model		AN53500-40(F)	AN53500-80(F)	AN53500-120(F)			
10000000	Voltage	i i	Three-phase three-wire+PE, 340V-420VAC				
Input	Frequency	47-63Hz					
	Voltage	0-500V					
Output	Current	0-40A	0-80A	0-120A			
	Power	0-5kW	0-10kW	0-15kW			
Display mode		4,3-inch color LCD					
Measurement error	Voltage		≤0.05%Umax, resolution 0.01V				
	Current	≤0.1%lmax, resolution 0.01A (>1000A, 0.1A)					
readback accuracy) Power		≤1%Pmax, resolution 0.001kW (>100kW, 0.01kW)					
Ripple and Noise	Vrms		80mV				
20Hz-20MHz Vpp		700mV					
Load effec	t	Voltage≤0.01%Umax, current≤0.05%lmax					
Power effe	ot	Voltage≤0.01%Umax, current≤0.01%lmax					
Transient respon	se time	≤2ms					
Maximum lead drop co	ompensation	25V					
Communication contr	rol interface	Standard: RS232, RS485, CAN, and LAN, optional: GPIB, analog port, and USB					
Protection functions		Input undervoltage protection, short-circuit protection, reverse connection protection, output overvoltage and current-limiting protection, overheating protection, and S-terminal compensation function.					
Parallel connection	function	It supports multip	ole units for parallel output to expand power	r/current range.			
Working enviror	nment		Temperature 0-40 C; Humidity 20-90%RH				
Dimensions(W×H	×D mm)		440×133×600				
Weight		17kg	27kg	37kg			

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

Model		AN53750-20(F)	AN53750-40(F)	AN53750-60(F)				
NORMON.	Voltage	Ť	Three-phase three-wire+PE, 340V-420VAC					
Input	Frequency	47-63Hz						
	Voltage		0-750V					
Output	Current	0-20A	0-40A	0-60A				
112.	Power	0-5kVV	0-10kW	0-15kW				
Display mode		4.3-inch color LCD						
Measurement error			≤0.05%Umax, resolution 0.01V					
rin. SEV Arr UKO	Current	≤0.1%Imax, resolution 0.01A (>1000A, 0.1A)						
readback accuracy)		≤1%Pmax, resolution 0.001kW(>100kW, 0.01kW)						
Ripple and Noise	Vrms							
20Hz-20MHz Vpp		800mV						
Load effec	t	Voltage≤0.01%Umax, current≤0.05%lmax						
Power effe	ct	Voltage≤0.01%Umax, current≤0.01%lmax						
Transient respon	se time	≤2ms						
Maximum lead drop c	ompensation	25V						
Communication cont	rol interface	Standard: RS232, F	RS485, CAN, and LAN, optional: GPIB, analog	g port, and USB				
Protection functions		Input undervoltage protection, short-circuit protection, reverse connection protection, output overvoltage and current-limiting protection, overheating protection, and S-terminal compensation function.						
Parallel connection	function	It supports multip	le units for parallel output to expand power/co	urrent range.				
Working environ	nment	Te	emperature: 0-40℃; Humidity: 20%-90%RH					
Dimensions(W×H	×D mm)		440×133×595	81				
Weight		17kg	27kg	37kg				

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

## Specifications

Model		AN531000-40(F)	AN531500-40(F)	AN532250-20(F)			
19/02/84/24	Voltage		Three-phase three-wire+PE, 340V-420	DVAC			
Input	Frequency						
	Voltage	0-1,000V	0-1,500V	0-2,250V			
Output	Current	0-4	0A	0-20A			
	Power	0-10kW	0-15kW	0-15kW			
Voltage		≤0.05%Umax, resolution 0.01V					
Measurement error Current			≤0.1%lmax, resolution 0.01A (>1000A, 0.1A)				
(readback accuracy)	Power	≤1%P resolution 0.001kW	090392	≤3%Pmax, resolution 0.001kW(>100kW, 0.01kW			
Ripple and Noise	Vrms	350mV	400mV	500mV			
20Hz-20MHz Vpp		1600mV	2400mV	2800mV			
Load effec	t	Voltage≤0.01%Umax, current≤0.05%lmax					
Power effec	ot	Voltage≤0.01%Umax, current≤0.01%lmax					
Transient respons	se time	≤2ms					
Maximum lead drop co	ompensation	25	28.5V				
Communication contr	rol interface	Standard: RS232, RS485, CAN, and LAN, optional: GPIB, analog port, and USB					
Protection functions		Input undervoltage protection, short-circuit protection, reverse connection protection, output overvoltage and current-limiting protection, overheating protection, and S-terminal compensation function.					
Parallel connection	function	It supports multiple units for parallel output to expand power/current range.					
Working enviror	nment		Temperature 0-40 C; Humidity 20-90%	6RH			
Dimensions(W×H	×D mm)		440×133×600				
Weight		27kg		37kg			

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

DC Power Supply \\\

# Ordering and function expansion

AN5380-120S(F): 80V/120A/1800W

AN5380-170S(F): 80V/170A/3000W

AN5380-170(F): 80V/170A/5000W

AN5380-340(F): 80V/340A/10000W

AN5380-510(F): 80V/510A/15000W

AN53300-15S(F): 300V/15A/1800W

AN53300-30S(F): 300V/30A/3000W

AN53300-50(F): 300V/50A/5000W

AN53300-100(F): 300V/100A/10000W

AN53300-150(F): 300V/150A/15000W

AN53500-40(F): 500V/40A/5000W

AN53500-80(F): 500V/80A/10000W

AN53500-120(F): 500V/120A/15000W

AN53750-20(F): 750V/20A/5000W

AN53750-40(F): 750V/40A/10000W

AN53750-60(F): 750V/60A/15000W

AN531000-40(F): 1000V/40A/10000W

AN531500-40(F): 1500V/40A/15000W

AN532250-20(F): 2250V/20A/15000W

It supports multiple units for parallel output to expand power/current range.

Pgg

DC Power



# Programmable Bidirectional DC Power Supply ANEVH(F) Series





## Product Introduction

The ANEVH(F) Series is a programmable DC power supply that integrates DC power and feedback load. It can function as a source, outputting power to the outside world, and as a sink, absorbing power and returning it cleanly to the grid, achieving standard bidirectional operation.

The ANEVH(F) Series of bidirectional programmable DC test power supplies include 7 voltage levels, covering a voltage range from 0V to 2250V, supporting the parallel operation of multiple units, and expandable up to 1MV in maximum power. The energy flows bidirectionally, with automatic seamless switching, high power density, fast dynamic response characteristics, built-in function generators and standard test curves, and the ability to generate multiple waveforms freely. It can be used in laboratories, automotive electronics, new energy battery-motor-electronic control, microgrids, high-power tests, and other testing scenarios.

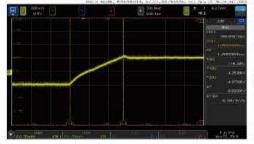
#### Features

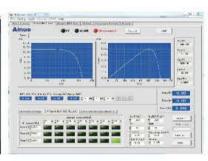
- Integrates source and load functions in a 3U standard chassis across the entire series.
- Integrates high-frequency PWM rectification and bidirectional DCDC technology, comprehensively eliminating the noise of conventional high-power bidirectional power supplies, rendering it a silent power supply.
- Higher power density, smaller size, and faster speed. Energy flows bidirectionally, with automatic seamless switching in both directions.
- Feedback efficiency up to 95%, with outstanding energy-saving and environmentally friendly advantages.
- Voltage range: covers 7 voltage levels from 0V to 2250V, the highest in the industry, with unique high-voltage series connection technology.
- Has a built-in function generator that supports arbitrary waveform generation.
- Has built-in DIN40839, ISO-16750-2, and ISO21848 standard automotive power grid voltage curves (optional).
- Has the electronic load function, with multiple load modes such as CV, CC, CP, CR, CV+CC, CV+CR, CC+CR, and CV+CC+CP+CR.

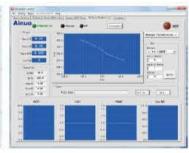
- Has the ability to simulate the output characteristics (Fill Factor) of various solar batteries.
- It can test maximum power point tracking (MPPT) capability and efficiency.
- It has the ability of accurate voltage and current measurement
- Sequence output can be set to test the operating voltage range of photovoltaic inverters.
- It has comprehensive protection functions, including OTP, OVP, OCP, and OPP.
- It has the S-terminal compensation function.
- It has the solar battery I-V curve simulation function.
- It has a standard RS232/RS485/CAN/LAN/USB communication interface.
- It is equipped with the standard graphical upper computer operational software, and can be operated as a single unit.
- It has the battery simulation function, simulating the output characteristic curves of various batteries.
- It can simulate I-V curves under different temperature and illumination conditions.

#### Application

- Microgrid and micro-inverter tests.
- Automotive motor, controller and power battery tests.
- Fuel battery test and fuel battery DCDC test.
- Uninterruptible power supply (UPS), on-board charger (OBC), charging station, and bidirectional DC-DC tests.
- Industrial tests such as electrolysis, electroplating, and welding.
- Communication power supply and LED product tests.
- Tests of automotive electronics, military electronics, and aviation electronics.
- High-power test and DC feedback load demand scenarios.







DC Power Supply \

The switch time from maximum reverse current to maximum forward current is as low as 1.4ms.

#### Ordering and function expansion

#### 3U Model

- ANEVH100-170(F) 100V/170A/5kW
- ANEVH100-340(F) 100V/340A/10kW
- ANEVH100-510(F) 100V/510A/15kW
- ANEVH300-75(F) 300V/75A/5kW
- ANEVH300-150(F) 300V/150A/10kW
- ANEVH300-225(F) 300V/225A/15kW
- ANEVH300-225(F) 300V/225A/21kW
- ANEVH300-300(F) 300V/300A/30kW
- ANEVH500-40(F) 500V/40A/5kW
- ANEVH500-80(F) 500V/80A/10kW
- ANEVH500-120(F) 500V/120A/15kW
- ANEVH500-160(F) 500V/160A/21kW
- ANEVH500-240(F) 500V/240A/30kW
- ANEVH750-25(F) 750V/25A/5kW
- ANEVH750-50(F) 750V/50A/10kW
- ANEVH750-75(F) 750V/75A/15kW
- THE VIII OU TO (1 ) TOUVITOIS TORV
- ANEVH750-120(F) 750V/120A/21kW
- ANEL (11350 400/E) 350///400A/001/A
- ANEVH750-180(F) 750V/180A/30kW
- ANEVH1000-40(F) 1000V/40A/10kW
- ANEVH1000-80(F) 1000V/80A/21kW
- ANEVH1000-100(F) 1000V/100A/30kW

#### 3U Model

- ANEVH1500-40(F) 1500V/40A/15kW
- ANEVH1500-60(F) 1500V/60A/21kW
- ANEVH1500-80(F) 1500V/80A/30kW
- ANEVH2250-25(F) 2250V/25A/15kW
- ANEVH2250-50(F) 2250V/50A/21kW
- ANEVH2250-60(F) 2250V/60A/30kW

#### 4U Model

- ANEVH80-680(F) 80V/680A/20kW
- ANEVH80-1020(F) 80V/1020A/30kW
- ANEVH300-450(F) 300V/450A/50kW
- ANEVH500-390(F) 500V/390A/50kW
- ANEVH750-300(F) 750V/300A/50kW
- ANEVH1000-150(F) 1000V/150A/50kW
- ANEVH1500-130(F) 1500V/130A/50kW
- ANEVH2250-100(F) 2250V/100A/50kW
- Support multiple parallel outputs to extend power/current range

Ainuo // DC Power Supply

- W	odel	ANEVH100-170(F)	ANEVH100-340(F)	ANEVH100-510(F)	ANEVH300-75(F)	ANEVH300-150(F)	ANEVH300-225			
	Phase number			Three-phase th	ree-wire+PE					
Territor de	Voltage			342V-52	28VAC					
Input	Frequency			45-66	6Hz					
	Power factor			≥0.5	99					
	Voltage	0-100VDC	0-100VDC	0-100VDC	0-300VDC	0-300VDC	0-300VDC			
Output	Current	-170A-170A	-340A-340A	-510A-510A	-75A-75A	-150A-150A	-225A-225A			
	Power	-5KW-5KW	-10KW-10KW	-15KW-15KW	-5kW-5kW	-10kW-10kW	-15kW-15kW			
Displa	y mode		-	4.3-inch co	olor LCD		-			
C1120.	resolution	0.01V (0.1V when >1000V)								
	resolution	0.01A (0.1A when >1000A)								
- Barro 18 - 10 1000	resolution			0.001kW (0.01kW	TO THE STATE OF TH					
Set up error	Voltage			≤0.05%	The state of the s					
(programming	Current			≤0.1%						
accuracy)	Power		≤1%FS							
leasurement error	Voltage		≤1.05%F.S.							
(Read-back	F1.0.20.20 T. Co.		\$0.05%r.s. ≤0.1%F.S.							
September 11 to 10	Current		≤1%FS							
accuracy)	Power		10	≤1%	FO	400-				
Ripple and noise	Vrms		40mvrms(100V)			100mvrms				
20Hz-20MHz	Vpp		250mvPP(100V) 650mvPP							
Load effect	Voltage		≤0.01%Umax							
DIRECTION (SAL)	Current		≤0.05%lmax							
Source effect	Voltage	≤0.01%Umax								
	Current			≤0.01%	6lmax					
Transient re	esponse time			≤2n	ns					
Forward	and reverse			2ms (+90	%-90%)					
switchi	ng speed	2ms (+90%-90%)								
emperature drift	Voltage	0.05% setting value								
	Current			0.05% set	ting value					
N	oise	≤65dB(A) (Measuring distance≥2m)								
OVP	range	110%F.S								
laximum lead volta	ge drop compensation	≤5% Umax(300V 6.5V)								
Communic	ation function		Standard: CAN/232/485/LAN/USB, optional: GPIB							
D-1-1		Input undervoltage protection, short-circuit protection, output overvoltage,								
Protectic	n functions		current-limiting protection and internal overheating protection.							
Analog inter	face (optional)		Start	stop, alarm, 0-5V or 0	-10V analog control o	output				
Other exter	nal interfaces			Standard configuration	on for parallel ports					
Effic	ciency			~90	%					
	Frequency			45-66	6Hz					
±000000000	Power factor			≥0.9≤	99					
Feedback	Switching time			≤2n	ns					
parameters	Feedback function			Full power ran	ge feedback					
	Feedback efficiency			~90						
Operating	temperature			0~40	10.47					
	emperature			-20-7	1000					
	midity			< 80%, without						
, 101	Enclosure size			444×132.5×						
Volume	Overall dimensions			444×132.5						
307	eight			5kw≤23kg 10kw≤	CONTACT CONTAC					
VV	ugnt		1 Droommin	ng accuracy/read-back		on /25 C+5 C+				
			tilled house committee	Service de la company de la co		or responsible process				
Pos	Remarks		<ol><li>Time required for the load to change from 100% to 50% or in reverse,</li></ol>							

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

# Specifications

Exceeding & Trustworthy

IV.	lodel	ANEVH500-40(F)	ANEVH500-80(F)	ANEVH500-120(F)	ANEVH750-25(F)	ANEVH750-50(F)	ANEVH750-75		
	Phase number			Three-phase to	hree-wire+PE				
Input	Voltage			342V-5	28VAC				
in pac	Frequency			45-6	6Hz				
	Power factor			≥0.	99				
	Voltage	0-500VDC	0-500VDC	0-500VDC	0-750VDC	0-750VDC	0-750VDC		
Output	Current	-40A-40A	-80A-80A	-120A-120A	-25A-25A	-50A-50A	-75A-75A		
	Power	-5kW-5kW	-10kW-10kW	-15kW-15kW	-5kW-5kW	-10kW-10kW	-15kW-15kW		
Displa	ay mode			4.3-inch o	olor LCD	*			
Voltage	resolution			0.01V (0.1V w	hen >1000V)				
Current	resolution			0.01A (0.1A w	hen >1000A)				
Power	resolution			0.001kW (0.01kW	Action and the second second second				
Setting error	Voltage			≤0.05	%F.S				
programming	Current			≤0.19					
accuracy)	Power			≤1%	OFFICE OF THE PROPERTY OF THE				
easurement error	Voltage			≤0.05	ranz-ranze				
(Read-back	Current			≤0.19	V. (A. (1) (1) (1) (1)				
accuracy)	Power			±0.17 ≤1%					
ipple and noise	Vrms		70mvrms	51%		90mums/750\/\			
20Hz-20MHz	Tempore.		500mvPP			90mvrms(750V)			
20H2-20WH2	Vpp		SOUMVPP	-1400		800mvPP(750V)			
Load effect	Voltage			≤0.01%					
	Current			≤0.05%					
Source effect	Voltage		≤0.01%Umax ≤0.01%Imax						
200	Current			≤0,01%	%lmax				
Transient re	esponse time 2			≤21	ms				
Forward	and reverse			2ms (+90	0%-90%)				
switch	ing speed		2118 (300 /0-30 /0)						
emperature drift	Voltage	0.05% setting value							
	Current	0.05% setting value							
N	oise			≤65dB(A) (Measur	ing distance≥2m)				
Scope	e of OVP			1109	6F.S				
aximum lead volta	age drop compensation			≤5% Umax (	(300V 6.5V)				
Communic	ation function		Sta	ndard: CAN/232/485/L	AN/USB, optional: G	PIB			
B 1 1	e		Input undervoltage protection, short-circuit protection, output overvoltage,						
Protection	on functions		current	-limiting protection, into	ernal overheating pro	tection.			
Analog inter	face (optional)		SECTION	, stop, alarm, 0-5V or	umarene en en en en en en en en en en en en	100 M 100 M			
Other exter	mal interfaces			Standard configurati	ion for parallel ports				
Effic	ciency			~90					
	Frequency			45-6	6Hz				
	Power factor			≥0.	99				
Feedback	Switching time			≤21	22722				
parameters	Feedback function			Full power ran	The state of the s				
	Feedback efficiency			~90	The second secon				
Operating	temperature			0~4					
3.5	temperature			- italia	POTATION .				
	sourdhr			-20-7					
Hu	midity  Enclosure size			<80%, without					
Volume		444×132.5×705.5mm							
1869	Overall dimension			444×132.5	03/17/10 1-up				
W	eight		Service Commence of the Commen	and the second resource and Affilian succession	31kg 15kw≤38kg	Commonweal Calculum Service Co.			
				ig accuracy/read-back					
Rei	marks		<ol><li>Time requir</li></ol>	ed for the load to chan	ge from 100% to 50%	6 or in reverse,			
			and for the	output voltage to retu	rn to within "rated val	ue±0.75%"			
		Any changes to the above parameter specifications will not be notified separate							

M	odel	ANEVH1000-40(F)	ANEVH1000-75(F)	ANEVH1500-40(F)	ANEVH2250-25(F)				
	Phase number		Three-phase th	ree-wire+PE	77.7				
16000	Voltage	342V-528VAC							
Input	Frequency		45-66	6Hz					
	Power factor	≥0.99							
	Voltage	0-1000VDC	0-1000VDC	0-1500VDC	0-2250VDC				
Output	Current	-40A-40A	-75A-75A	-40A-40A	-25A-25A				
	Power	-10KW-10KW	-15KW-15KW	-15KW-15KW	-15KW-15KW				
Displa	ly mode	4.3-inch color LCD							
	resolution	0.01V (0.1V when >1000V)							
5,475	resolution		0.01A (0.1A wh						
	resolution		0.001kW (0.01kW	and the second of the second o					
Set up error	Voltage		≤0.05%	The Stort over here a structure to \$4					
(programming	Current	≤0.1%F.S.							
accuracy)	Power	≤1%FS							
leasurement error		≤0.05%F.S.							
(Read-back	Current	≤0.1%F.S.							
accuracy)	Power		≤1%FS						
Ripple and noise	Vrms	300mvrms	100mvrms	200m	nvrms				
20Hz-20MHz	Vpp	AND PROCESSION OF STREET	1600mvPP 1000mvPP 2000mvPP						
ZOTIZ ZOTITIZ	Voltage	TOOUTIVEE	≤0.01%Umax						
Load effect	Current		≤0.05%lmax						
	Voltage	≤0.01%Umax							
Source effect	Current	≤0.01%imax							
Transient r			≤2m						
	esponse time		2211	IS:					
	and reverse ng speed								
= 332	Voltage	0.05% setting value							
emperature drift	Current	0.05% setting value							
N	oise		≤65dB(A) (measuri	21. ac. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.					
	range		110%						
And the second second second second	lrop compensation		≤5% Umax (3	300V 6.5V)					
	ation function		Standard: CAN/232/485/LA	A 1 / A 1 /					
170 PT 10 LONDON TO THE	NO. 010-1010-1010-1010-1	Inpi	ut undervoltage protection, short-ci		tage,				
Protectio	n functions	TRACE	current-limiting protection and in						
Analog inter	face (optional)		Startup, stop, alarm, 0-5V or 0	a construction of the second o					
777.777.137	nal interfaces		Standard equippe	version and the second section of the section of th					
201000000000000000000000000000000000000	piency		~90						
	Frequency		45-66	iHz					
	Power factor		≥0.9	NAME OF TAXABLE PARTY.					
Feedback	Switching time		≤2m	33.02					
parameters	Feedback function		Full power rang	ge feedback					
	Feedback efficiency		~90						
Operating	temperature		0~40	2004 C					
	emperature		-20-7	San I					
1150	midity		<80%, without	ADDRESS OF A PERSON OF A SECOND OF A SECON					
	Enclosure size		444×132.5×	20000000000000000000000000000000000000					
Volume	Overall dimensions		444×132.5	A756124 WALL					
VA/s	eight	Ę	kw; ≤23kg 10kw; ≤32kg 15kw≤38k		5kw; ≤23kg 10kw; ≤31kg 15kw≤38				
503	ang. It.		Programming accuracy/read-back	-					
Pos	marks		Time required for the load to chang		SALARAGE.				
L'GI	risa) NG	4.	required for the load to charly	, 100 /0 to 00 /0 OF III 18V	41.441				

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

# Specifications

Exceeding & Trustworthy

M	lodel	ANEVH300-225P(F)	ANEVH500-160(F)	ANEVH750-120(F)	ANEVH1000-80(F)	ANEVH1500-60(F)	ANEVH2250-50(			
	Phase number			Three-phase three	e-wire+PE					
Input	Voltage	342V-528VAC								
input	Frequency	45-66Hz								
	Power factor			≥0.99						
	Voltage	0-300VDC	0-500VDC	0-750VDC	0-1000VDC	0-1500VDC	0-2250VDC			
Output	Current	-225A-225A	-160A-160A	-120A-120A	-80A-80A	-60A~60A	-50A-50A			
	Power	-21KW-21KW	-21KW-21KW	-21KW-21KW	-21KW-21KW	-21KW-21KW	-21KW-21KW			
Displa	ay mode	4.3-inch color LCD								
Voltage	resolution	0.01V (0.1V when >1000V)								
Current	resolution	0.01A (0.1A when >1000A)								
Power	resolution			0.001kW (0.01kW w						
Set up error	Voltage		≤0.05%F.S.							
programming	Current			≤0.1%F.	.00					
accuracy)	Power			≤1%FS						
easurement error	1.000.000		≤0.05%F.S.							
(Read-back	Current		≤0.1%F.S.							
accuracy)	Power			≤1%FS	2					
Ripple and noise	Vms	100	80mvrms	AND THE RESERVE AND THE RESERV	SELECTION OF THE SECOND	220	400			
20Hz-20MHz	10000000	100mvrms	/#:#M.M.M.M.	80mvrms	220mvrms	220mvrms	400mvrms			
20H2-20MH2	Vpp	650mvPP	750mvPP	800mvPP	1600mvPP	1800mvPP	2400mvPP			
Load effect	Voltage			≤0.01%Ur	C-WAR					
ACCUPATION AND COLUMN	Current			≤0.05%ln	19000					
Source effect	Voltage		≤0.01%Umax ≤0.01%lmax							
WWW 25 W	Current			20000000	nax					
	esponse time			≤2ms						
Forward	and reverse			2ms (+90%-	90%)					
switchi	ing speed									
emperature drift	Voltage	0.05% setting value								
	Current	0.05% setting value								
N	oise	≤65dB(A) (Measuring distance≥2m)								
Scope	e of OVP	110%F.S								
Maximum lead of	drop compensation	≤5% Umax (300V 6.5V)								
Communic	ation function	Standard: CAN/232/485/LAN/USB, optional: GPIB								
Drotostic	on functions	Input undervoltage protection, short-circuit protection, output overvoltage,								
Protection	on functions	current-limiting protection and internal overheating protection.								
Analog inter	face (optional)	Startup, stop, alarm, 0-5V or 0-10V analog control output								
Other exter	nal interfaces		Standard equipped parallel port							
Effic	ciency			~90%						
	Frequency			45-66H	Z					
SHOW SOME STATE	Power factor			≥0.99						
Feedback	Switching time			≤2ms						
parameters	Feedback function			Full power range	feedback					
	Feedback efficiency			~90%						
Operating	temperature			0~40 C						
222	emperature			-20-70	50					
	midity			< 80%, without co						
TIG	Enclosure size			444×132.5×70	22-24-21-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1					
Volume	Overall dimension			444×132.5×7						
YAI	100 May 200	4		444×132.5×7 21kw≤39	0.00					
VV	eight		1 Draggement			25.0.45.0.1-				
	considerate		The state of the s	accuracy/read-back ac	Same and a first of the contribution of	A CONTRACTOR OF THE PROPERTY O				
Rei	marks			for the load to change						
			and for the ou	utput voltage to return t	o within "rated value±	0.75%"				

DC Power Supply \\\

# Ainuo // DC Power Supply

# Specifications

14	lodel	ANEVH80-680(F)	ANEVH80-1020(F)	ANEVH500-240(F)	ANEVH750-180(F)				
	Phase number		Three-phase t	Suita Christian Control Contro					
Input	Voltage		342V-528VAC						
	Frequency Davies feater	45-66Hz ≥0.99							
	Power factor	0.000,000	1	5000	0.7501.50				
Output	Voltage	0~80VDC	0~80VDC	0~500VDC	0~750VDC				
Output	Current	-680A ~ 680A	-1020A~1020A	-240A~240A	-180A~180A				
CM24700F	Power	-20kW~20kW	-30kW~30kW	-30kW~30kW -30kW~30kW					
	ay mode		4.3-inch c	374500-7-10-00					
	resolution			vhen >1000V)					
54 0000 1000 100	resolution		0.01A (0.1A w						
ortown strains with	resolution		0.001kW (0.01kV	CONTRACTOR CONTRACTOR					
Set up error	Voltage		≤0.05						
(programming	Current		%F.S. 6FS						
accuracy)	Power								
leasurement error	17.77								
(Read-back	Current	≤0.1%F.S.							
accuracy)	Power	- 28.33	The second secon	6FS	Department of the Control of the Con				
Ripple and noise	Vrms	2.41	mvrms	80mvrms	80mvrms				
20Hz-20MHz	Vpp		DmvPP	750mvPP	800mvPP				
Load effect	Voltage	Evanto	2%Umax	≤0.01%	WESTARE				
	Current	11-1-1-1-1	5%lmax	377.5.500	≤0.05%lmax				
Source effect	Voltage	514,000,015	2%Umax	≤0.01%	2020-08-02				
99 E. M.	Current	≤0.0	5%lmax	≤0.019	6lmax				
	esponse time		≤2	ms					
Forward	and reverse		2ms (+9	0%-90%)					
switch	ing speed	2ms (+90%-90%)							
emperature drift	Voltage		0.05% se	tting value					
	Current		0.05% setting value						
	oise		AND CONTROL TO THE CONTROL OF THE CO	uring distance≥2m)					
	e of OVP		1109	%F.S					
Maximum lead o	drop compensation			(300V 6.5V)					
Communic	ation function		Standard: CAN/232/485/I	_AN/USB, optional: GPIB					
Protection	on functions	Inpu	ut undervoltage protection, short-	circuit protection, output overvolta	ge,				
TIOLEOUIC	- I I I I I I I I I I I I I I I I I I I		current-limiting protection and i	nternal overheating protection.					
Analog inter	face (optional)		Startup, stop, alarm, 0-5V or	0-10V analog control output					
Other exter	nal interfaces		Standard configurat	tion for parallel ports					
Effic	ciency	≤93	.5%	~9	0%				
	Frequency		45-6	66Hz					
Feedback	Power factor		≥0	.99					
parameters	Switching time			ms					
- Landing Color	Feedback function		Full power rai	nge feedback					
	Feedback efficiency	≤93	.5%	~9	0%				
Operating	temperature		0~4	0°C					
Storage t	emperature		-20-	<b>70</b> °C					
Hu	midity		< 80%, withou	t condensation					
Volume	Enclosure size	444*177*696.5mm	444×177×696.5mm	444×132.5×705.5mm	444×132.5×705.5mm				
volume	Overall dimension	444*177*768mm	444×177×768mm	444×132.5×768mm	444×132.5×768mm				
W	eight	20kw≤41kg	30kw≤53.5kg	30kw≤40kg	30kw≤40kg				
Rei	marks	2.		c accuracy test condition (25 C±5 nge from 100% to 50% or in rever					

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

# Specifications

Input	olution olution Voltage Current Power Voltage Current Power Voltage Current Vpp Voltage Current Voltage Current Voltage Current Voltage Current Voltage Current	0-1000VDC -100A-100A -30KW-30KW	Three-phase three-wire+PE  342V-528VAC  45-66Hz ≥0.99  0~1500VDC -80A~80A -30kW~30kW  4.3-inch color LCD  0.01V (0.1V when >1000V)  0.01A (0.1A when >1000A)  0.001kW (0.01kW when >100kW) ≤0.05%F.S. ≤0.1%F.S. ≤1%FS ≤0.05%F.S. ≤0.1%F.S. ≤1%FS 220mvrms 1800mvPP ≤0.01%Umax	0~2250VDC -60A~60A -30kW~30kW 400mvrms 2400mvPP			
Display mo Voltage resol Current resol Power resolu Set up error (programming accuracy) Ideasurement error (Read-back accuracy) Ripple and noise 20Hz-20MHz Load effect Transient respor Forward and resolution switching sp	Frequency Power factor Voltage Current Power ode olution olution Voltage Current Power Voltage Current Power Voltage Current Power Vms Vpp Voltage Current Voltage Current Current Current Current Current Current Current Current Current Current Current Current Current Current Current Current Current Current Current	-100A-100A -30KW-30KW	45-66Hz ≥0.99 0~1500VDC -80A~80A -30kW~30kW 4.3-inch color LCD 0.01V (0.1V when >1000V) 0.01A (0.1A when >1000A) 0.001kW (0.01kW when >100kW) ≤0.05%F.S. ≤0.1%F.S. ≤1%FS ≤0.05%F.S. ≤1%FS 220mvrms 1800mvPP ≤0.01%Umax	-60A ~60A -30kW ~30kW			
Display mo Voltage resol Current resol Power resolu Set up error (programming accuracy) easurement error (Read-back accuracy) tipple and noise 20Hz-20MHz Load effect Transient respor Forward and resolutions synthesis and resolutions synthesis and resolutions are synthesis and	Frequency Power factor Voltage Current Power ode olution olution Voltage Current Power Voltage Current Power Voltage Current Power Vms Vpp Voltage Current Voltage Current Current Current Current Current Current Current Current Current Current Current Current Current Current Current Current Current Current Current	-100A-100A -30KW-30KW	≥0.99  0~1500VDC  -80A~80A  -30kW~30kW  4.3-inch color LCD  0.01V (0.1V when >1000V)  0.01A (0.1A when >1000A)  0.001kW (0.01kW when >100kW)  ≤0.05%F.S.  ≤0.1%F.S.  ≤1.1%F.S.  ≤1.1%F.S.  ≤1.1%F.S.  ≤1.1%F.S.  ≤1.1%F.S.  ≤1.1%F.S.  ≤0.1%F.S.  ≤0.1%F.S.  ≤0.1%F.S.  ≤0.1%F.S.	-60A ~60A -30kW ~30kW			
Output  Display mo Voltage resol Current resol Power resol Set up error (programming accuracy) leasurement error (Read-back accuracy) tipple and noise 20Hz-20MHz Load effect Transient respor Forward and resolved a	Voltage Current Power ode olution olution lution Voltage Current Power Voltage Current Power Vrms Vpp Voltage Current Voltage Current Current Power Vrms Vpp Voltage Current Voltage Current Voltage Current Voltage Current	-100A-100A -30KW-30KW	0~1500VDC -80A~80A -30kW~30kW 4.3-inch color LCD 0.01V (0.1V when >1000V) 0.01A (0.1A when >1000A) 0.001kW (0.01kW when >100kW) ≤0.05%F.S. ≤0.1%F.S. ≤1.1%F.S. ≤1.1%F.S. ≤1.1%F.S. ≤1.1%F.S. ≤0.1%F.S. ≤0.1%F.S. ≤0.1%F.S.	-60A ~60A -30kW ~30kW			
Display mo Voltage resol Current resol Power resolu Set up error (programming accuracy) leasurement error (Read-back accuracy) tipple and noise 20Hz-20MHz Load effect Transient respor Forward and resolution switching sp	Current Power oode olution olution lution Voltage Current Power Voltage Current Power Vrms Vpp Voltage Current Voltage Current Current Voltage Current Voltage Current Voltage Current Voltage Current Voltage Current	-100A-100A -30KW-30KW	-80A ~ 80A -30kW ~ 30kW  4.3-inch color LCD  0.01V (0.1V when >1000V)  0.01A (0.1A when >1000A)  0.001kW (0.01kW when >100kW) ≤0.05%F.S. ≤0.1%F.S. ≤1%FS ≤0.05%F.S. ≤20.1%F.S. ≤1%FS 220mvrms 1800mvPP ≤0.01%Umax	-60A ~60A -30kW ~30kW			
Display mo Voltage resol Current resol Power resolu Set up error (programming accuracy) leasurement error (Read-back accuracy) tipple and noise 20Hz-20MHz Load effect Transient respor Forward and resolution switching sp	Power ode olution olution lution Voltage Current Power Voltage Current Power Vrms Vpp Voltage Current Voltage Current Current Current Current Current Current Current Current Current Current Current Current Current Current	-30KW-30KW	-30kW ~ 30kW  4.3-inch color LCD  0.01V (0.1V when >1000V)  0.01A (0.1A when >1000A)  0.001kW (0.01kW when >100kW)  ≤0.05%F.S.  ≤0.1%F.S.  ≤1%FS  ≤0.05%F.S.  ≤0.1%F.S.  ≤1%FS  ≥0.05%F.S.  ≤0.1%F.S.  ≤10%FS  ≥0.01%Umax	-30kW~30kW			
Voltage resol Current resol Power resolu Set up error (programming accuracy) leasurement error (Read-back accuracy) tipple and noise 20Hz-20MHz Load effect Transient respor Forward and resolution of the switching sport of O	ode olution olution lution Voltage Current Power Voltage Current Power Vrms Vpp Voltage Current Voltage Current Current Current Current Current Current Current Current Current Current Current Current Current	200mvrms	4.3-inch color LCD  0.01V (0.1V when >1000V)  0.01A (0.1A when >1000A)  0.001kW (0.01kW when >100kW)  ≤0.05%F.S.  ≤0.1%F.S.  ≤1%FS  ≤0.05%F.S.  ≤1%FS  220mvrms  1800mvPP  ≤0.01%Umax	400mvrms			
Voltage resol Current resol Power resolu Set up error (programming accuracy) easurement error (Read-back accuracy) ipple and noise 20Hz-20MHz Load effect Transient respor Forward and resolution of the switching sport mperature drift Noise Scope of O	olution olution Voltage Current Power Voltage Current Power Voltage Current Vpp Voltage Current Voltage Current Voltage Current Voltage Current Voltage Current	40000000000000000000000000000000000000	0.01V (0.1V when >1000V) 0.01A (0.1A when >1000A) 0.001kW (0.01kW when >100kW) ≤0.05%F.S. ≤0.1%F.S. ≤1%FS ≤0.05%F.S. ≤0.1%F.S. ≤1%FS 220mvrms 1800mvPP ≤0.01%Umax	120000000000000000000000000000000000000			
Voltage resol Current resol Power resolu Set up error (programming accuracy) easurement error (Read-back accuracy) ipple and noise 20Hz-20MHz Load effect Transient respor Forward and resolution of the switching sport mperature drift Noise Scope of O	olution olution Voltage Current Power Voltage Current Power Voltage Current Vpp Voltage Current Voltage Current Voltage Current Voltage Current Voltage Current	40000000000000000000000000000000000000	0.01A (0.1A when >1000A) 0.001kW (0.01kW when >100kW) ≤0.05%F.S. ≤0.1%F.S. ≤1%FS ≤0.05%F.S. ≤0.1%F.S. ≤2.1%F.S. ≤1%F.S. ≤10.1%F.S. ≤10.1%V.S. ≤10.1%V.S. ≤0.01%V.S.	120000000000000000000000000000000000000			
Current resolution Power resolution Power resolution Power resolution Power resolution Power resolution Power resolution Power resolution Power resolution Power resolution Power resolution Power resolution Power Powe	olution Iution Voltage Current Power Voltage Current Power Vrms Vpp Voltage Current Voltage Current Voltage Current Voltage Current Voltage Current	40000000000000000000000000000000000000	0.01A (0.1A when >1000A) 0.001kW (0.01kW when >100kW) ≤0.05%F.S. ≤0.1%F.S. ≤1%FS ≤0.05%F.S. ≤0.1%F.S. ≤2.1%F.S. ≤1%F.S. ≤10.1%F.S. ≤10.1%V.S. ≤10.1%V.S. ≤0.01%V.S.	120000000000000000000000000000000000000			
Power resolution  Set up error (programming accuracy) easurement error (Read-back accuracy) ipple and noise 20Hz-20MHz  Load effect  Transient respor Forward and respondence of Comparature drift  Noise Scope of Comparature resolution	lution  Voltage  Current  Power  Voltage  Current  Power  Vrms  Vpp  Voltage  Current  Voltage  Current  Voltage  Current  Voltage  Current	40000000000000000000000000000000000000	0.001kW (0.01kW when >100kW) ≤0.05%F.S. ≤0.1%F.S. ≤1.05%F.S. ≤0.1%F.S. ≤1.1%F.S. ≤1%F.S. ≤1%F.S. ≤220mvrms 1800mvPP ≤0.01%Umax	120000000000000000000000000000000000000			
Set up error (programming accuracy) easurement error (Read-back accuracy) ipple and noise 20Hz-20MHz Load effect  Transient respor Forward and respons witching sponsore effect  Noise Scope of O	Voltage Current Power Voltage Current Power Vrms Vpp Voltage Current Voltage Current Voltage Current	40000000000000000000000000000000000000	≤0.05%F.S. ≤0.1%F.S. ≤1%FS ≤0.05%F.S. ≤0.1%F.S. ≤1%FS 220mvrms 1800mvPP ≤0.01%Umax	120000000000000000000000000000000000000			
(programming accuracy) easurement error (Read-back accuracy) ipple and noise 20Hz-20MHz Load effect Source effect Transient respor Forward and reswitching spendered are semperature drift Noise Scope of O	Current Power Voltage Current Power Vrms Vpp Voltage Current Voltage Current Current	40000000000000000000000000000000000000	≤0.1%F.S. ≤1%FS ≤0.05%F.S. ≤0.1%F.S. ≤1%FS 220mvrms 1800mvPP ≤0.01%Umax	120000000000000000000000000000000000000			
accuracy) easurement error (Read-back accuracy) ipple and noise 20Hz-20MHz Load effect  Source effect  Transient respor Forward and respondence of Comparative drift  Noise Scope of Comparative drift	Power Voltage Current Power Vrms Vpp Voltage Current Voltage Current	40000000000000000000000000000000000000	≤1%FS ≤0.05%F.S. ≤0.1%F.S. ≤1%FS 220mvrms 1800mvPP ≤0.01%Umax	120000000000000000000000000000000000000			
easurement error (Read-back accuracy) ipple and noise 20Hz-20MHz Load effect  Transient respor Forward and respondence of Comparative drift  Noise Scope of Comparative Comparative drift	Voltage Current Power Vrms Vpp Voltage Current Voltage Current	40000000000000000000000000000000000000	≤0.05%F.S. ≤0.1%F.S. ≤1%FS 220mvrms 1800mvPP ≤0.01%Umax	120000000000000000000000000000000000000			
(Read-back accuracy) ipple and noise 20Hz-20MHz Load effect Source effect Transient respor Forward and respondence of the switching spondence of the Scope of O	Current Power Vrms Vpp Voltage Current Voltage Current	40000000000000000000000000000000000000	≤0.1%F.S. ≤1%FS 220mvrms 1800mvPP ≤0.01%Umax	120000000000000000000000000000000000000			
accuracy) ipple and noise 20Hz-20MHz  Load effect  Source effect  Transient respor Forward and respondence of the second of the	Power Vrms Vpp Voltage Current Voltage Current	40000000000000000000000000000000000000	≤1%FS 220mvrms 1800mvPP ≤0.01%Umax	120000000000000000000000000000000000000			
ipple and noise 20Hz-20MHz  Load effect  Source effect  Transient respor Forward and reswitching spenperature drift  Noise Scope of O	Vrms Vpp Voltage Current Voltage Current	40000000000000000000000000000000000000	220mvrms 1800mvPP ≤0.01%Umax	120000000000000000000000000000000000000			
20Hz-20MHz  Load effect  Source effect  Transient respon Forward and reswitching spenperature drift  Noise Scope of O	Vpp Voltage Current Voltage Current	40000000000000000000000000000000000000	1800mvPP ≤0.01%Umax	120000000000000000000000000000000000000			
Load effect  Source effect  Transient respor Forward and respectively switching specific properature drift  Noise Scope of O	Voltage Current Voltage Current	TOOURNEE	≤0.01%Umax	2400111777			
Transient respor Forward and re switching sp mperature drift Noise Scope of O	Current Voltage Current		-COLDMO CAVEL STO				
Transient respor Forward and re switching sp imperature drift Noise Scope of O	Voltage Current		≤0.05%Imax				
Transient respor Forward and re switching sp emperature drift Noise Scope of O	Current		≤0.01%Umax				
Forward and researching spengerature drift  Noise  Scope of O	1192		≤0.01%0max ≤0.01%lmax				
Forward and researching spengerature drift  Noise Scope of O	onse time		≤0.01 volimax ≤2ms				
switching sp emperature drift Noise Scope of O	25000000000000000000000000000000000000		SZIIIS				
emperature drift  Noise  Scope of O	PENNORMON		2ms (+90%-90%)				
Noise Scope of O	1000000	0.000					
Scope of O	Voltage		0.05% setting value				
Scope of O	Current	0.05% setting value					
		≤65dB(A) (Measuring distance≥2m)  110%F.S  ≤5% Umax (300V 6.5V)					
Maximum lead drop o	processor and the second						
\$2500 CONSTRUCTION CONTRACTOR							
Communication	tunction		tandard: CAN/232/485/LAN/USB, optional: GPIB				
Protection fun	nctions		oltage protection, short-circuit protection, output o	100 F 2 2 2 4 2 1 1			
Accident	72.00.220	A. I MARKET POLICE	limiting protection and internal overheating protection.	NACE OF THE PROPERTY OF THE PR			
Analog interface (		Starti	up, stop, alarm, 0-5V or 0-10V analog control out	put			
Other external in	100000000000000000000000000000000000000		Standard configuration for parallel ports	المطفى			
Efficiency	Maria and a service of the service o		90%	≤95%			
	Frequency		45-66Hz				
Feedback	Power factor		≥0.99				
parameters	Switching time		≤2ms				
	edback function		Full power range feedback	515240			
\$1,0,2000	edback efficiency		90%	≤95%			
Operating temp			0~40 C				
Storage tempe	Sec.		-20-70℃				
Humidity	-		< 80%, without condensation				
Volume	Enclosure size		.5×705.5mm	444×132.5×705.5mm			
Ove	verall dimension	444×13	2.5×768mm	444×132.5×768mm			
Weight	t		w≤40kg	30kw≤40kg			
		State of the state	ning accuracy/read-back accuracy test condition (				
Remarks		2. Time requ	ired for the load to change from 100% to 50% or	in reverse,			

	Phase number			Three-phase	three-wire+PE						
	Voltage	342V-528VAC 45-66Hz									
Input	Frequency										
	Power factor		≥0.99								
	Voltage	0~300VDC	0~500VDC	0~1000VDC	0~1500VDC	0-750VDC(expandable to 800V)	0~2250VDC				
	Current	-450A~450A	-390A~390A	-150A~150A	-130A~130A	-300A~300A	-100A~100A				
Output	Power	-50kW ~ 50kW	-50kW ~50kW	-50kW~50kW	~50kW ~ 50kW	-50kW~50kW	-50kW ~ 50kW				
	Internal resistance	0.033~150Ω	0.051~500Ω	0.226~1000Ω	0.384~1500Ω	0.1~750Ω	0.6~2250Ω				
Displa	ay mode		100000000000000000000000000000000000000	4.3-inch	color LCD						
70.000	resolution			0.01V (0.1V	when >1000V)						
Current	resolution		0.01A (0.1A when >1000A)								
Power	resolution	0.001kW (0.01kW when >100kW)									
WIEWERSE .	tance resolution		0.	001Ω (0.01Ω when >1	one to recomb consenses at	000)					
	Voltage				5%F.S.	7.7.7.7.					
Set up error	Current	≤0.1%F.S.									
(programming	Power			E SHOOL	%FS						
accuracy)1	Internal resistance	≤0.3% of maximum r	≤ 0.3% of maximum resistance ± 0.1% of maximum current (note: applicable to feedback current above 2A)								
52400	Voltage	≤0.05%F.S.									
Measurement error			≤0.1%F.S.								
(Read-back	Power		≤1%FS								
accuracy)	Internal resistance	< 0.3% of maximum a	acistanna + 0 1% of maximus	n current (note: applicable to f		T					
Ripple and noise	Vrms	≤80mVrms	≤100mVrms	≤170mVrms	≤200mVrms	≤120mVrms	≤240mVrms				
20Hz-20MHz	Vpp	≤800mVpp	≤100mVpp	≤1800mVpp	≤2200mVpp	≤1200mVpp	≤2400mVpp				
ZUHZ-ZUIVIHZ	Voltage	Southivpp	\$ 1000mvpp	lui		S1200mvpp	52400mvpp				
Load effect	Current	≤≤0.02%Umax									
	1210700000000	≤0.05%lmax									
Source effect	Voltage	≤0.02%Umax									
240000000000000000000000000000000000000	Current	≤0.02%lmax									
	esponse time <sup>2</sup>			3712	2ms						
Forward and reve	erse switching speed	2ms (+90%-90%)									
Temperature drift	Voltage				etting value						
	Current				etting value						
5-100-1	e of OVP				9%F.S						
	drop compensation			AN AGGARATION PRODUCTION	Umax						
\$1000000000000000000000000000000000000	ation function	Standard: CAN/232/485/LAN/USB, optional: GPIB Input undervoltage protection, short-circuit protection, output overvoltage, current-limiting protection and internal overheating protection									
	on functions	Input undervoltage pr	otection, short-circuit p	rotection, output overv	Oltage, current-limiting  Conventoral waveformed from the conv		erneating protectio Conventoral valebon editor fundo				
Waveform ed	iting (sequence)			ļ	integrated testing standards, which can be graphi		tegrated testing standards, which can be g				
Analog inter	rface (optional)		Startu	p, stop, alarm, 0-5V o	r 0-10V analog contr	ol output					
Other exter	mal interfaces			Standard equip	ped parallel port						
Effic	ciency			≤9	3.5%						
	Frequency			45-	66Hz						
Feedback	Power factor			≥(	0.99						
parameters	Switching time			≤.	2ms						
	Feedback function			Full power ra	ange feedback						
	Feedback efficiency			≤	94%						
Operating	temperature			0~	40 C						
Storage t	emperature			-20	-70°C						
Hui	midity			<80%, witho	ut condensation						
Volume	Enclosure size			444×177	×705.5mm						
VOIGITIE	Overall dimension			444×17	7×805mm	0;					
W	eight		s!	53kg		50kW:	53kg				
	F100		1. Programm	ing accuracy/read-bac	k accuracy test cond	ition (25 C +5 C ):	7				

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

# 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.

DC Power Supply \\

- Response time≤3ms; forward and reverse switching time≤ 4ms
- I Power factor≥0.99, current harmonic distortion≤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.

DC Power Supply \\\

# Specifications

Product series	Product model	Rated current	Rated power	Peak current	Peak power	Voltage range	Dimension /mm (W×D×H)
	ANEVT500-200C(F)	200A	60kW	300A	90KW	24V-500V	1000×1000×2100
500V Series	ANEVT500-300C(F)	300A	90kW	450A	135KW	24V-500V	1000×1000×2100
	ANEVT500-400C(F)	400A	120kW	500A	150KW	24V-500V	1000×1000×2100
	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
800V Series	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
	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
1000V Series	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
	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
1200V Series	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
	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.
- I Tests of electric vehicle transmission systems and powertrain systems.
- I 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.
- I UPS and EPS system tests.
- Hybrid power test.
- It has simulated batteries for alternative real battery power supply testing scenarios.
- I Suitable for high power DC test power supply applications.

# Specifications

Exceeding & Trustworthy

- 1	roduct name		High Power Bidirectional DC Power Supply
	Input	method	Three-phase four-wire+PE
Input	Input	voltage	Line voltage: 380V±15%
VIO.300.000.1	Input fr	equency	50/60Hz±5Hz
parameter	Input po	wer factor	0.99
	Input elect	ric harmony	3% (under rated conditions)
	Voltage	accuracy	0.05%F.S
	Current	accuracy	0.1%F.S
İ	Power	accuracy	0.2%F.S
Output		r effect	0.1%F.S
parameter	Load	effect	0.1%F.S
0.000.000.000	0.0000	e (Vpp)	0.2%ES
1		ecovery time	≤3ms (10%-90% rated resistive load switching)
+	Current rise time		
	Feedback voltage		≤3ms (loading test after starting output)
· ·	1,122,075,639,675,07	10 Land 10 Co. Co. Co. Co. Co. Co. Co. Co. Co. Co.	323-437V
		frequency	Grid frequency (45Hz-65Hz)
Feedback	Macana	Power factor ≥0,99	
parameter	112200000000000000000000000000000000000	onic content	≤3% (tested under conditions of standard AC power input with distortion within 1.5%)
**************************************	Forward and reverse		≤4ms
ļ	output switching time		
	Feedback function		Full power continuous energy feedback
	Working mode		CV, CC, CP and CR
	Output programming		It provides programmable output voltage waveform, including voltage and current slope, step,
	Output pi	ogramming	cyclic control, and jump control; 900-step programming function, with the minimum programming time of 1m
	Emerge	ncy stop	With emergency stop button, it can quickly disconnect the connection with the load equipment
			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.
	Battery	simulation	It has customizable battery cell capacity, series and parallel connection quantities, SOC,
feature			and temperature parameters with 1st, 2nd, and 3rd order battery simulation functions,
			supporting import and export of data in mat and csv data formats.
1	Output ram	p-up function	Programmable output voltage ramp-up
	- Andread Distriction	irge function	It has a built-in discharge unit, which automatically discharges upon shutdown.
İ	.000		It has multiple protection devices, input protection devices, OCP, OVP, OPP, OTP,
	Protection	on function	bus overvoltage protection, output short circuit protection, etc.
1	Voltage drop	compensation	It features automatic voltage drop compensation terminals, automatically compensating for cable voltage drop
	voltage drop	Voltage	0.001V
	Display		
Display and	resolution	Current	0.001A
operation	5000	Power	0.001kW
		y mode	LCD
	0.000	on mode	Number key, knob and touch screen three-in-one
ommunication -		nterface	Standard RS232/RS485 (select one)
interface	- ALIVERTON	nterface	Supports CAN2.0 protocol (AORB). Communication data update frequency ≥50Hz
	Eth	ernet	Supports Ethernet communication (standard)
Α	nalog interface	1	Supports external analog emergency stop switch quantity input control
Safety	Insulation	resistance	≥2MΩ (tested at 1,000V insulation voltage)
	Compress	ive strength	2000VDC 5mA/min
performance	Grounding	resistance	≤100mΩ
	Working to	emperature	0°C-40°C
Working	Working	humidity	20-90%RH (no condensation)
environment	Alti	tude	≤2,000m
	Storage to	emperature	-10 ℃-70 ℃
	Noise	en maker store swiffere	≤75dB
0	ooling method		Temperature-controlled air cooling. It has a built-in temperature-controlled variable speed fan.
	rotection level		IP21

DC Power Supply

DC Power Supply \\

# Dual-channel Bidirectional DC Power Supply

Ainuo // DC Power Supply

ANEVT DA(F) Series



#### Product Introduction

The ANEVT DA(F) Series Bidirectional Dual-channel Bidirectional DC Power Supply is a dedicated test power supply developed for the new energy vehicle industry. It is a high-tech product integrating 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. It provides independent dual-channel outputs, each of which is controllable, offering a concise and reliable test scheme for different tests such as tests of motors, electronic controls, hybrids, etc.

# Features

- It provides dual-channel outputs, with power freely allocated to each channel.
- Each channel has independent control and protection functions that do not interfere with each other.

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

Exceeding & Trustworthy

- 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, CR working modes. Voltage 0.05%FS and current 0.1%FS.
- Response time≤3ms; forward and reverse switching time≤ 4ms
- Power factor≥0.99, current harmonic distortion≤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.

#### Specifications

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Product series	Product model	Single channel	Single channel rated power	Single channel	Single channel	Single channel voltage range	Dimension /mm (W×D×H)
	ANEVT800-300DA(F)	300A	90kW	450A	135KW	24V-800V	1500×1000×2100
	ANEVT800-400DA(F)	400A	120kW	500A	150KW	24V-800V	1500×1000×2100
	ANEVT800-500DA(F)	500A	160kW	625A	200KW	24V-800V	2000×1000×2100
	ANEVT800-600DA(F)	600A	200kW	750A	250KW	24V-800V	2000×1000×2100
800V Series	ANEVT800-800DA(F)	800A	300kW	1000A	375KW	24V-800V	2000×1200×2200
	ANEVT800-900DA(F)	900A	400kW	1125A	500KW	24V-800v	2500×1200×2200
	ANEVT800-1000DA(F)	1000A	500kW	1250A	625KW	24V-800v	2500×1200×2200
	ANEVT800-1200DA(F) 1200A 600kW 1500A 750KW	24V-800V	2500×1200×2200				
	ANEVT1000-200DA(F)	200A	90kW	300A	135KW	24V-1000V	1500×1000×2100
	ANEVT1000-300DA(F)	300A	120kW	375A	150KW	24V-1000V	1500×1000×2100
	ANEVT1000-500DA(F)	500A	160kW	625A	200KW	24V-1000V	2000×1000×2100
	ANEVT1000-600DA(F)	600A	200kW	750A	250KW	24V-1000V	2000×1000×2100
1000V Series	ANEVT1000-800DA(F)	800A	300kW	1000A	375KW	24V-1000V	2000×1200×2200
	ANEVT1000-900DA(F)	900A	400kW	1125A	500KW	24V-1000V	2500×1200×2200
	ANEVT1000-1000DA(F)	1000A	500kW	1250A	625KW	24V-1000V	2500×1200×2200
	ANEVT1000-1200DA(F)	1200A	600kW	1500A	750KW	24V-1000V	2500×1200×2200
	ANEVT1200-200DA(F)	200A	90kW	300A	135KW	24V-1200V	1500×1000×2100
	ANEVT1200-300DA(F)	300A	120kW	375A	150KW	24V-1200V	1500×1000×2100
	ANEVT1200-500DA(F)	500A	160kW	625A	200KW	24V-1200V	2000×1000×2100
	ANEVT1200-600DA(F)	600A	200kW	750A	250KW	24V-1200V	2000×1000×2100
1200V Series	ANEVT1200-800DA(F)	800A	300kW	1000A	375KW	24V-1200V	2000×1200×2200
	ANEVT1200-900DA(F)	900A	400kW	1125A	500KW	24V-1200V	2500×1200×2200
	ANEVT1200-1000DA(F)	1000A	500kW	1250A	625KW	24V-1200V	2500×1200×2200
	ANEVT1200-1200DA(F)	1200A	600kW	1500A	750KW	24V-1200V	2500×1200×2200
	Remarks	Two channel	s can freely allocate	power within the over	all power range of the	e whole unit.	

1	roduct name		Dual-channel Bidirectional DC Power Supply				
	Input	method	Three-phase four-wire+PE				
Input	Input Input voltage Input frequency		Line voltage: 380V±15%				
parameter	Input fr	equency	50/60Hz±5Hz				
	Input power factor		0.99				
	Current l	harmonics	3% (under rated conditions)				
	Voltage	accuracy	0.05%F.S				
	Current	accuracy	0.1%F.S				
	Power	accuracy	0.2%F.S				
Output	Powe	r effect	0.1%F.S				
parameter	Load	effect	0.1%F.S				
	Ripple	e (Vpp)	0.2%F.S				
1	Transient re	ecovery time	≤3ms (10%-90% rated resistive load switching)				
Î	Current	rise time	≤3ms (loading test after starting output)				
	Feedbad	ck voltage	323-437V				
	Contracts of Section 144	requency	Grid frequency (45Hz-65Hz)				
	11	r factor	≥0.99				
Feedback	- Internet	onic content	≤3% (tested under conditions of standard AC power input with distortion within 1.5%)				
parameter	F 75 TO 10 T		portor alput with distortion within 1.070)				
	Forward and reverse		≤4ms				
1	output switching time Feedback function		Full power continuous energy feedback				
-	2000002000000	to a toronton	CV, CC, CP, and CR				
	Working mode						
	Output programming		It provides programmable output voltage waveform, including voltage and current slope, step, cyclic control.				
	<b>-</b>		and jump control; 900-step programming function, with the minimum programming time of 1ms.				
+	Emerge	ency stop	With emergency stop button, it can quickly disconnect the connection with the load equipment				
			It can simulate functions of 7 types of batteries including ternary lithium, lithium manganese oxide,				
Product	Battery simulation		lithium titanium oxide, lithium cobalt oxide, lithium iron phosphate, lead-acid, and nickel-metal hydride batterie				
feature			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 d				
	Display	Voltage	0.001V				
Display and	resolution	Current	0.001A				
operation	3500000000	Power	0.001kW				
100	Displa	y mode	LCD				
	Operati	on mode	Number key, knob and touch screen three-in-one				
ommunication _	Serial i	nterface	Standard RS232/RS485 (select one)				
interface	CAN ii	nterface	Supports CAN2.0 protocol (AORB). Communication data update frequency ≥50Hz				
interrece.	Eth	ernet	Supports Ethernet communication (standard)				
	Analog interface		Supports external analog emergency stop switch quantity input control				
Cofotu	Insulation	resistance	≥2MΩ (tested at 1,000V insulation voltage)				
Safety	Compress	ive strength	2,000VDC 5mA/min				
performance		resistance	≤100mΩ				
		nperature and	0C-40C				
Working		humidity	20-90%RH (no condensation)				
environment		de and	≤2000m				
0000 V20000000 V25000		emperature	-10°C-70°C				
	Noise	poratoro	≤75dB				
	Cooling method		Temperature-controlled air cooling, It has a built-in temperature-controlled variable speed fan.				
	Pooling Hieriou		remperature-controlled all cooling, it has a pullent temperature-controlled variable speed fall.				

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

# **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.

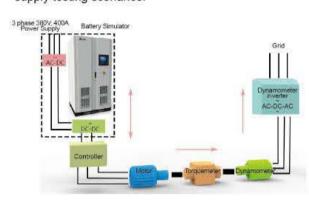
- Voltage 0.05%FS and current 0.1%FS.
- Response time≤3ms; switching time≤4ms.
- Power factor≥0.99, current harmonic distortion≤3%.

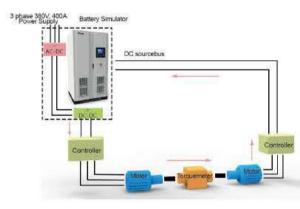
DC Power Supply \\\

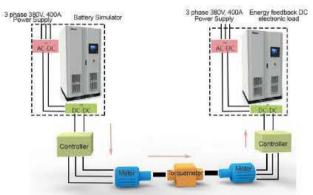
- It supports simulation of 7 types of batteries including ternary lithium, lithium iron phosphate, lithium titanium oxide, lithium cobalt oxide, lithium manganese oxide, nickel-metal hydride, and lead-acid batteries.
- It supports custom battery modes, with 1st, 2nd, and 3rd order battery models and internal resistance models, and allows for import and export of data in CSV and mat
- 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

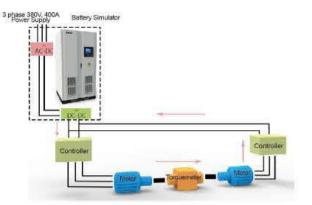
# Application

- Testing of electric vehicle motors and controllers.
- I 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
- 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.



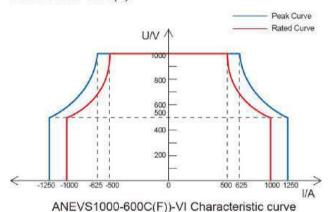






#### Output VI characteristic curve

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)
	ANEVS800-200C(F)	200A	60KW	300A	90KW	24V-800V	1000×1000×2100
800V Series	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
	ANEVS800-2000C(F)	2000A	1000KW	2500A	1250KW	24V-800V	4000×1200×2200
	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	1500×1000×210
000V Series	ANEVS1000-600C(F)	600A	200KW	750A	250KW	24V-1000V	1500×1000×210
	ANEVS1000-800C(F)	800A	300KW	1000A	375KW	24V-1000V	1500×1200×220
	ANEVS1000-900C(F)	900A	400KW	1125A	500KW	24V-1000V	2000×1200×220
	ANEVS1000-1000C(F)	1000A	500KW	1250A	625KW	24V-1000V	2000×1200×220
	ANEVS1000-1200C(F)	1200A	600KW	1500A	750KW	24V-1000V	2000×1200×220
	ANEVS1000-2000C(F)	2000A	1000KW	2500A	1250KW	24V-1000V	4000×1200×2200
	ANEVS1200-150C(F)	150A	60KW	225A	90KW	24V-1200V	1000×1000×2100
	ANEVS1200-200C(F)	200A	90KW	300A	135KW	24V-1200V	1000×1000×210
	ANEVS1200-300C(F)	300A	120KW	375A	150KW	24V-1200V	1000×1000×210
	ANEVS1200-500C(F)	500A	160KW	625A	200KW	24V-1200V	1500×1000×2100
1200V Series	ANEVS1200-600C(F)	600A	200KW	750A	250KW	24V-1200V	1500×1000×210
	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
	ANEVS1200-2000C(F)	2000A	1000KW	2500A	1250KW	24V-1200V	4000×1200×2200
	ANEVS1500-160C(F)	160A	90KW	240A	135KW	48V-1500V	1200×1200×2100
	ANEVS1500-300C(F)	300A	200KW	375A	250KW	48V-1500V	2000×1000×210
45001/0	ANEVS1500-500C(F)	500A	300KW	625A	375KW	48V-1500V	3000×1000×2100
1500V Series	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
	ANEVS2000-160C(F)	160A	90KW	240A	135KW	48V-2000V	1200×1200×2100
	ANEVS2000-200C(F)	200A	200KW	250A	250KW	48V-2000V	2000×1000×2100
200014.0	ANEVS2000-500C(F)	500A	300KW	625A	375KW	48V-2000V	3000×1000×2100
2000V Series	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

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100	roduct name		Battery simulator				
	Input	method	Three-phase four-wire+PE				
17000000	Input	voltage	Line voltage: 380V±15%				
Input parameter	Input frequency		50/60Hz+5Hz				
	Input power factor		0.99				
	Input elec	tric harmony	3% (under rated conditions)				
	File of the contract of the co	accuracy	0.05%F.S				
F		accuracy	0.1%F.S				
	11 MARTIN 11 DE	accuracy	0.2%FS				
Output		er effect	0.1%F.S				
parameter	-0.5223	l effect	0.1%F.S				
+		e (Vpp)	0.2%F.S				
1		ecovery time	≤3ms (10%-90% rated resistive load switching)				
-		rise time					
	250 000	W. Comment	≤3ms (loading test after starting output)				
-	Total Control Control	ck voltage	323-437V				
		k frequency	Grid frequency (45Hz-65Hz)				
Feedback		r factor	≥0.99				
parameter	- Illinois and the land	onic content	≤3% (tested under conditions of standard AC power input with distortion within 1.5%)				
record Gallanian (1905-1905)	110000000000000000000000000000000000000	and reverse	≤4ms				
1	output switching						
	Feedback function		Full power continuous energy feedback				
	Worki	ng 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.				
-			It can set parameters such as VOC, ISC, VMP, IMP, FF, etc.,				
Product	Photovoltaic simulation		with built-in standard curves such as Sandia and EN50530.				
feature							
			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,				
1			and enable protection functions.				
		ompensation	It features automatic voltage drop compensation terminals, automatically compensating for cable voltage drop				
	Display	Voltage	0.001V				
Display and	resolution	Current	0.001A				
operation =	resolution	Power	0.001kW				
operation	Displa	y mode	LCD				
	Operat	ion mode	Number key, knob and touch screen three-in-one				
	Serial	interface	Standard RS232/RS485 (select one)				
ommunication -	CANi	nterface	Supports CAN2.0 protocol. Communication data update frequency ≥50Hz				
interface		ernet	Supports the Ethernet communications				
Ans	log interface	MACO 5-3-1	Supports external analog emergency stop switch quantity input control				
7-016		resistance	≥2MΩ (tested at 1,000V insulation voltage)				
		ive strength	2,000VDC 5mA/min				
Safety		g resistance	≥,000VDC 510Amim				
performance -							
working	10000000000000	emperature	0 C-40 C				
environment		humidity	20-90%RH (no condensation)				
		itude	≤2,000m				
	The second second	emperature	-10°C-70°C				
	Noise		≤75dB				
Co	oling method		Temperature-controlled air cooling. It has a built-in temperature-controlled variable speed fan.				

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

# **Dual-channel Battery Simulator** ANEVS DA(F) Series



#### Product Introduction

The ANEVS DA(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 provides dual-channel outputs, with power freely allocated to each channel.
- Each channel has independent control and protection functions that do not interfere with each other.

- It is a multifunctional integrated machine for photovoltaic simulation, battery simulation, and bidirectional output.
- 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, CR working modes.
- Voltage 0.05%FS and current 0.1%FS.
- Response time≤3ms; forward and reverse switching time≤ 4ms.
- Power factor≥0.99, current harmonic distortion≤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.

D440

Ainuo // DC Power Supply

Product series	Product model	Single channel rated current	Single channel rated power	Single channel	Single channel	Single channel voltage range	Dimension /mm (W×D×H)
	ANEVS800-300DA(F)	300A	90KW	450A	135KW	24V-800V	1500×1000×2100
	ANEVS800-400DA(F)	400A	120KW	500A	150KW	24V-800V	1500×1000×2100
	ANEVS800-500DA(F)	500A	160KW	625A	200KW	24V-800V	2000×1000×210
800V Series	ANEVS800-600DA(F)	600A	200KW	750A	250KW	24V-800V	2000×1000×210
	ANEVS800-800DA(F)	800A	300KW	1000A	375KW	24V-800V	2000×1200×210
	ANEVS800-900DA(F)	900A	400KW	1125A	500KW	24V-800V	2500×1200×220
	ANEVS800-1000DA(F)	1000A	500KW	1250A	625KW	24V-800V	2500×1200×220
	ANEVS800-1200DA(F)	1200A	600KW	1500A	750KW	24V-800V	2500×1200×220
	ANEVS1000-200DA(F)	200A	90KW	300A	135KW	24V-1000V	1500×1000×210
	ANEVS1000-300DA(F)	300A	120KW	375A	150KW	24V-1000V	1500×1000×210
	ANEVS1000-500DA(F)	500A	160KW	625A	200KW	24V-1000V	2000×1000×210
	ANEVS1000-600DA(F)	600A	200KW	750A	250KW	24V-1000V	2000×1000×210
1000V Series	ANEVS1000-800DA(F)	800A	300KW	1000A	375KW	24V-1000V	2000×1200×210
	ANEVS1000-900DA(F)	900A	400KW	1125A	500KW	24V-1000V	2500×1200×220
	ANEVS1000-1000DA(F)	1000A	500KW	1250A	625KW	24V-1000V	2500×1200×220
	ANEVS1000-1200DA(F)	1200A	600KW	1500A	750KW	24V-1000V	2500×1200×220
	ANEVS1200-200DA(F)	200A	90KW	300A	135KW	24V-1200V	1500×1000×210
	ANEVS1200-300DA(F)	300A	120KW	375A	150KW	24V-1200V	1500×1000×210
	ANEVS1200-500DA(F)	500A	160KW	625A	200KW	24V-1200V	2000×1000×210
	ANEVS1200-600DA(F)	600A	200KW	750A	250KW	24V-1200V	2000×1000×210
1200V Series	ANEVS1200-800DA(F)	800A	300KW	1000A	375KW	24V-1200V	2000×1200×210
	ANEVS1200-900DA(F)	900A	400KW	1125A	500KW	24V-1200V	2500×1200×220
	ANEVS1200-1000DA(F)	1000A	500KW	1250A	625KW	24V-1200V	2500×1200×220
	ANEVS1200-1200DA(F)	1200A	600KW	1500A	750KW	24V-1200V	2500×1200×220

# Specifications

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100	roduct name	- N	Dual-channel Battery Simulator					
	0.000	method	Three-phase four-wire+PE					
Input Input voltage		voltage	Line voltage: 380V±15%					
parameter	Input frequency		50/60Hz+5Hz					
	Input po	ower factor	0.99					
	Input elec	tric harmony	3% (under rated conditions)					
	Voltage	accuracy	0.05%F.S					
	Current	t accuracy	0.1%F.S					
Output	Power	accuracy	0.2%F.S					
parameter	Powe	er effect	0.1%F.S					
parameter	Load	d effect	0.1%F.S					
	Rippl	le (Vpp)	0.2%F.S					
	Transient r	ecovery time	≤3ms (10%-90% rated resistive load switching)					
	Curren	t rise time	≤3ms (loading test after starting output)					
	Feedba	ck voltage	323-437V					
	Feedbac	k frequency	Grid frequency (45Hz-65Hz)					
2 14 4 5 5 5 4 4 5 5 5 5 5 5 5 5 5 5 5 5		er factor	≥0.99					
Feedback	10,000,000	nonic content	≤3% (tested under conditions of standard AC power input with distortion within 1.5%)					
parameter		and reverse						
	10000000		≤4ms					
-	output switching Feedback function		Full power continuous energy feedback					
	Working mode		CV, CC, CP and CR					
-	Working mode		It allows programmable output voltage waveforms, including voltage					
	Output programming		40~10 전로 맞아 있다면 이 나가 되었다면 보고 있다면 가는 사람들이 되었다면 살아 있다면 하는데 얼마를 받아 보고 있다면 보다 다른데요.					
	Emergency stop		and current slopes, steps, cyclic control, and jump control.					
	Emerg	ency 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,					
1			supporting import and export of data in mat and CSV data formats.					
Product	Photovoltaic simulation		It can set parameters such as VOC, ISC, VMP, IMP, FF, etc., with built-in standard curves such as					
feature			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.					
			It has input undervoltage protection, input overcurrent protection, input phase loss protection,					
	Destructi		output overcurrent protection, output short-circuit protection,					
	Protection function		bus overvoltage protection, internal overheating protection, programmable OVP LVP OCP LVP OPP					
			protection parameter values, and enable protection functions.					
	Line drop o	compensation	It features automatic voltage drop compensation terminals, automatically compensating for cable voltage drop					
	2-15 7.5	Voltage	0.001V					
Diselect	Display	Current	0.001A					
Display and	resolution	Power	0.001kW					
operation	Displa	ay mode	LCD					
	2505000	ion mode	Number key, knob and touch screen three-in-one					
5 525.525	520,410,500	interface	Standard RS232/RS485 (select one)					
ommunication		interface	Supports CAN2.0 protocol. Communication data update frequency ≥50Hz					
interface	120000	nemet	Supports the Ethernet communications					
Δ	nalog interface		Supports external analog emergency stop switch quantity input control					
î		DODGE STATE OF THE	Supports external analog emergency stop switch quantity input control ≥2MΩ (tested at 1,000V insulation voltage)					
-	Insulation resistance		2,000VDC 5mA/min					
Safety	Compressive strength Grounding resistance							
performance	7.0000000000000000000000000000000000000		≤100mΩ					
working		temperature	0°C-40°C					
environment	100400101113	g humidity	20-90%RH (no condensation)					
environment		titude	≤2,000m					
-	Storage temperature		-10 C-70 C					
	200000000000000000000000000000000000000	emperature						
	Noise Cooling method	emperature	≤75dB  Temperature-controlled air cooling. It has a built-in temperature-controlled variable speed fan.					





Multi-channel High Precision Power Analyzer ANPA4000(F)



Multi-channel High Precision Power Analyzer AN87660(F)



Compact Multi-channel Power Analyzer AN87400(F)



Three-phase Power Analyzer AN87330(F)



Single Phase Power Analyzer AN87310(F)

## Multi-channel High Precision Power Analyzer ANPA4000(F)



- 8-channel synchronous power analysis
- Accuracy: 0.03% x display + 0.05% x range)
- Sampling rate: 2MS/s
- Maximum voltage 1000V (DC1500V)
- Rich specifications: 30A (standard)/5A, standard BNC interface, optional sensor
- Motor measurement: optional motor measurement channel
- LCD display: full touch screen experience, custom display interface entries, multiple wave displays
- Data storage: custom data storage items, CSV format export, local storage/screenshot saving
- Perfect size Standard 4U height, suitable for integration

# Display interface







4-item display

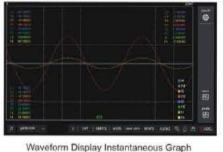
8-item display

18-item display



Full value display





0.0000V 0.00000A 0.0000W 0.0000

Waveform Display Trend Graph

Waveform Display Vector Graph

Split screen display

Measurement of electrical performance of electric vehicles, OBC, charging stations

Renewable energy power, efficiency, and harmonic analysis

Switching power supply power/harmonic/inrush current analysis.

Harmonic analysis of power electronics and transformers













#### Channel configuration

Wiring	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8
Single-phase photovoltaic inverter	1P2W DC	1P2W AC	1P2W DC	1P2W AC	1P2W	1P2W	1P2W	1P2W
Three-phase photovoltaic inverter AC 3P3W/3V3A/3P4W AC		W	1P2W DC	3P3W/3V3A/3P4W AC		1P2W DC		
Electric vehicle	1P2W	1P2W	1P2W	1P2W	1P2W	1P2W	1P2W	1P2W
Inverter	Inverter 3P3W/3V3A/3P4W		1P2W	1P2W	1P2W	Torque	/speed	
UPS	1P2W Mains input	1P2W Battery		P3W/3V3A/3P4V Three-phase inpu			P3W/3V3A/3P4V Three-phase inpu	

The above specifications are subject to change without prior notice.

#### Application





#### Photovoltaic inverter power measurement

- Comply with GB/T 18488-2024 Drive Motor System for Electric Vehicles
- Up to 4 motors can be measured simultaneously, supporting 500th harmonic and distortion analysis
- ▼ Pulse signal and analog signal speed/torque sensors (optional)
- ▼ Torque, speed, mechanical power, efficiency, electric phase angle measurement (optional)

#### I Electric vehicle electrical performance measurement

- Up to 8 channels can be measured simultaneously, and multiple parameters can be detected: OBC, charging stations efficiency test, battery charging/discharging performance, power supply conversion performance, motor performance, etc.
- Support high voltage/current measurement, maximum voltage 1000V (DC1500V), maximum current 30A, expandable for larger current sensors
- Accuracy: 0.03% x display + 0.05% x range, power resolution 0.1mW
- Measure signal ripple ratio, three-phase imbalance ratio, power factor, fundamental reactive power etc.

# Solar cell PV Inverter Boost DC/AC Converter Current charging control system Power storage system

#### Renewable energy measurement

- GB/T 37409-2019 Testing specifications for photovoltaic grid-connected inverter
- Comply with GB/T 34133-2023 Testing Code for Power Conversion System of Energy Storage System
- Support high voltage/current measurement, maximum voltage 1000V (DC1500V), maximum current 30A, expandable for larger current sensors
- Harmonic measurement and flicker measurement based on standard IEC
- Up to 500th harmonic and distortion analysis
- Simultaneous measurement of bidirectional power for buying and selling electricity

#### Power supply/UPS power measurement/

- ¬ Current: 0~30A/5A.
- Power bandwidth DC, 0.5Hz~1MHz

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■ Simultaneous measuring input/output (single-phase, three-phase) power, monitoring battery charge/discharge.

Automatic efficiency calculation

# Specifications

Model		ANPA4000(F)				
Current specifications	30A (optional 50A 5A)					
Wiring method	1P3W (single-phase 3-wire), 3P3W (3-phase 3-wire, 2 voltage 2 current). 3V3A (3-phase 3-wire, 3 voltage 3 current), 3P4W (3-phase 4-wire)					
Input impedance of each phase	•	ut of current: 30A: About 10mΩ 5A: About 100mΩ it sensor input: About 1MΩ				
Sampling rate		2MS/s				
Full scale crest factor		3 or 6				
Rated voltage range(Direct input)	15/30/60/100/150/300/600/1000*[V] (peak factor 3) 7.5/15/30/50/75/150/300/500*[V] (peak factor 6) *The crest factor of 1000V full scale is 1.5					
Rated current range(Direct input)	30A: 1/2/5/10/20/30*[A](peak factor 3) 5A: 100m/200m/500m/1/2/5*[A](peak factor 3) 30A: 500m/1/2.5/5/10/15*[A](peak factor 6) 5A: 50m/100m/250m/0.5/1/2.5*[A](peak factor 6)					
Rated current range(Sensor input)	200m/500m/1/2/5/10 [V] (peak factor 3) 100m/250m/500m/1/2.5/5 [V] (peak factor 6)					
Voltage/Current Precision scope	(1%∼110%) × range					
Power factor Range		±(0.0001-1.0000)				
Voltage measurement accuracy	DC 0.5Hz≤f<45Hz 45Hz≤f≤66Hz 45Hz <f≤1khz 100khz<f≤500khz="" 1khz<f≤5nkhz="" 500kh<="" 50khz<f≤100khz="" td=""></f≤1khz>	±(0.05% × display + 0.05% × range) ± (0.03% × display+0.05% × range) ± (0.03% × display+0.05% × range) ±(0.1% × display + 0.1% × range) ±(0.3% × display + 0.1% × range) ±(0.6% × display + 0.2% × range) ±[(0.006 × f)% × display + 0.5% × range] ±[(0.022 × f - 8)% × display + 1% × range]				
Current precision	DC 0.5Hz≤f < 45Hz 45Hz≤f≤66Hz 66Hz <f≤1khz 100khz<="" 1khz<f≤50khz="" 500khz<="" 50khz<f≤100khz="" f="" f≤100khz=""></f≤1khz>	±(0.05% × display + 0.05% × range) ±[(0.03% × display + 0.05% × range)+ (2μΑ*)] ±[(0.03% × display + 0.05% × range)+ (2μΑ*)] ±(0.1% × display + 0.1% × range) ±(0.3% × display + 0.1% × range) ±(0.6% × display + 0.2% × range) ±[(0.006 × f)% × display + 0.5% × range] ±[(0.002 × f - 8)% × display + 1% × range]				
Active power measurement accuracy	DC 0.5Hz≤f < 45Hz 45Hz≤f≤66Hz 66Hz < f≤1kHz 1kHz < f≤50kHz 50kHz < f≤100kHz 100kHz < f≤500kHz 500kHz < f≤1MHz	±(0.05% × display + 0.05% × range) ±(0.08% × display + 0.1% × range) ±(0.05% × display + 0.05% × range) ±(0.2% × display + 0.1% × range) ±(0.3% × display + 0.2% × range) ±(0.7% × display + 0.3% × range) ±[(0.02 × f)% × display + 1% × range] ±[(0.04 × f)% × display + 3% × range]				

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# Specifications

Model	ANPA4000(F)				
Active power measurement accuracy	0.02W-6.6kW/phase @ 220V, PF=0.01-1 (30A board card)				
Active power resolution	30A/50A: 1mW; 5A:0.1mW				
Frequency range	DC, 0.5Hz -1MHz				
Frequency measurement accuracy	±0.06% x display				
Harmonic measurement	110Hz ~ 2.6kHz, up to 500th harmonic content, total distortion				
Electric energy measurement range	0-99999MWh (resolution: 1mWh/0.01mAh)				
Electric energy measurement accuracy	±0.2% * display				
Power meter	9999 hours 59 minutes 59 seconds				
Filter function	Frequency filtering is available in 500Hz, 10kHz, 100kHz, and 1MHz options.Line filtering 100~10kHz (step 100Hz), 50kHz, 100kHz option 1.00 ~ 50000.00				
Voltage/current ratio					
External input ratio	0.10~100.00				
Data update cycle	10m / 20m / 50m / 100m / 200m / 500m / 1/ 2 / 5 / 10[s]				
Control interface	Test cycle synchronization interface (compatible with trigger lock), standard: RS-232, LAN; Optional RS-485				
Protocol	MODBUS\TCP MODBUS\SCPI				
Outline dimension	426 (W) x 175 (H) x 462 (D) mm				
Size of the opening	426 (W) x 175 (H)				
Foot height	17.5 mm				
Machine weight	About 20kg				
Power consumption of whole machine	66W				

Туре	Me	otor board				
Input Interface	Insu	lation BNC				
Input resistance	About 1MΩ					
	Single motor(speed: Pulse)					
	ChA(Torque)	Analog/pulse input				
	ChB(SpeedA)	Pulse phase-A (rotation speed)				
	ChC(SpeedB)	Pulse phase-B (steering)				
	ChD(SpeedZ)	Pulse phase-Z (electrical angle reference)				
	Single motor(speed: analog)					
	ChA(Torque)	Analog/pulse input				
Input channel	ChB()					
	ChC(Speed)	Analog/pulse input				
	ChD()					
	Dual-motor					
	ChA(Torque)	Analog/pulse input				
	ChB(Speed)	Pulse input				
	ChC(Torque)	Analog/pulse input				
	ChD(Speed)	Pulse input				
	Analog input					
	Rated range	1/2/5/10/20*[V]				
	Range	(1%~110%)* range				
	Maximum allowable input	22V				
	Sampling rate	About 200KS/s				
	measurement accuracy	±(0.05% * display + 0.05% * range)				
Input type	Pulse input					
	Rated range	10V				
	Amplitude range	±12Vpeak				
	Detection level - H	≥2V				
	Detection level - L	≤0.8V				
	Pulse width	≥500ns				
	Frequency range	2 Hz ~ 1 MHz				
	measurement accuracy	±(0.05% * display + 0.001Hz)				

The above specifications are subject to change without prior notice.

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#### [Conditions]

Temperature: 23±5 C, humidity: 30%~75%RH, input wave: Sine wave, common-mode voltage: 0V, Line filter: OFF, Frequency filter: OFF, Power factor λ: 1, peak factor: 3. After preheating. After zeroing or changing the range in wiring state.

The f in the measurement accuracy formula is the frequency in kHz.

When the data update rate is 10ms, 20ms, 50ms, 100ms, all accuracies are increased by 0.03% x display.

Impact due to change to Temp. after resetting or changing the scale:

Plus 0.02% x scale/  $^{\circ}$ C for voltage DC accuracy,  $500\mu\text{A}/\text{C}$  for current DC accuracy,  $50\mu\text{V}/\text{C}$  for external sensor DC accuracy, product of voltage impact and current impact for power DC accuracy.

# Multi-channel High Precision Power Analyzer AN87660(F) Series



Six-channel synchronous power analysis.

Basic Accuracy: 0.05% of reading + 0.05% of range

Measurement Bandwidth: DC, 0.5Hz~100kHz

Sampling Rate: 200kSps

Maximum Voltage: Standard 1000V (DC1500V)

Maximum Current: 20A (standard) 50A/5A (optional), support for mixed configurations, optional sensors available

LCD Display: Full touchscreen experience, customizable display interface, waveform display

Data Storage: Customizable storage items, export in CSV format

#### Production Application

- Analysis of standby power consumption and power for single-phase/three-phase household and commercial appliances
- Analysis of power, efficiency, and harmonics for photovoltaic inverters
- Measurement of electrical performance for electric vehicles and charging piles
- Power and harmonics analysis for power electronics, transformers, and generators
- Power and harmonics analysis for variable frequency drives and variable frequency motors
- Analysis of power, harmonics, and surge current for switching power supplies
- Power analysis for lighting systems and LED lighting

Perfect Size: Standard 3U height, meets system integration requirements

Power Analyzer \

#### Features

- Multi-channel Configuration: Configurable with 1 to 6 channels for synchronous measurement units, adaptable for various load measurement needs such as single-phase,
- three-phase three by two, three-phase four by two, four-phase (DC + three-phase three), etc. (applicable to loads like air conditioners, inverters, variable frequency drives, motors).
- High Accuracy: Utilizes high-speed FPGA + ARM dual-core processing, 16-bit high-speed high-precision AD converter, achieving a basic accuracy of up to 0.1%, with a fastest data update cycle of 100ms.

Wide Power Range: Each channel can measure currents up to 50A (optional specifications include 20A, 5A, 1A, etc., supporting mixed configurations), with a minimum power resolution of 0.1mW, meeting requirements for standby power consumption measurement and rated power measurement.

■ Wide Bandwidth: Dual-use for AC and DC signals, with a power measurement bandwidth ranging from DC, 0.5Hz to 100kHz, suitable for measuring power of various standard and non-standard sinusoidal waveform loads.

P127

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- Multi-channel Harmonic Analysis: Capable of simultaneous harmonic analysis on six channels, measuring up to 50th harmonic, distortion analysis, and displaying harmonic content of each order and total content intuitively.
- Multi-channel Frequency Measurement: Six channels can perform frequency measurements simultaneously.
- Line Filtering: Employs low-pass filters of 500Hz and 5.5kHz, capable of measuring the fundamental value of PWM waveforms and filtering out high-frequency interference from switch mode power supplies.
- Sensors: Ratio function, supports conventional I-I, V-V type voltage/current transformers; supports BNC interface I-V type current sensors, with a maximum input voltage of 10V, optional high-current sensors available.
- Efficiency Calculation: Simultaneously measures input and output energy consumption of devices, and calculates their efficiency.
- Energy Accumulation: Capable of separately accumulating forward energy, reverse energy, and comprehensive energy, facilitating measurement for energy transactions.

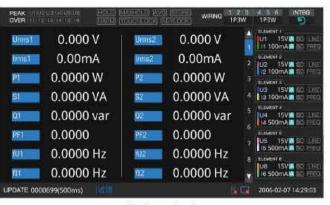




4-item display

OVER IT IT IT IT IT	[HARM] [TOUCHLOCK] [KEYLOCK]	WIRING 1P3W	1P3W
Umrs1	0.000 V	<u> </u>	U1 15VA SO LINE
lms1	0.00mA	1	ELEMENT 2
PI	0.0000 W		U2 15V St LINE 12 100mA & SC FRED ELEMENT 3
<b>S</b> 1	0.0000 VA	4	US 15VA SC LINE 13 100mA & SC FRED
Q1	0.0000 var	5	U4 15V A SC LINE
PF1	0.0000		ELEMENT S  US 15V SC UNE
FU 1	0.0000 Hz	7. 8	IS 500mA ▲ SQ FREQ
fl f	0.0000 Hz		U6 15V A SO LLNE 16 500mA N SO FFED
UPDATE 0000666(500ms)		10 G	2006-02-07 14:28:47

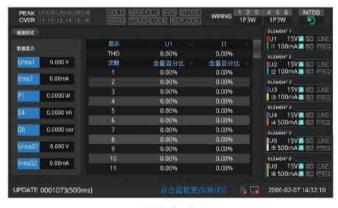
8-item display



16-item display

ELEM	ENT	:17	2	(3)	5.4.6	5	6	٨	SUT 15VA SO UN
ms	V	0.000	0.000	0.000	0.000	0.000	0.000	ä	11-100mA (SC FIE
ms	A	0,00m	0.00m	0.00m	0.00m	0.00m	0,00m	2	U2 15VM SO ILIN 12 100mA 8 SO FEE
	W	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3	ELEMENT 3
	WA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4	13 100mA 2 SO FEE
į.	var	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5	U4 15VM SC UN
		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		14 500mA 1 50 FEE
•		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		US 15V SQ LIN 15 500mA 8 SQ FIELD
	HZ	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	В	ELEMENT 8
1	Hz	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		16 500mA M SQ EEE

Full numerical



List display

			HULD (MXXXXXX) (AV HAAM) TOUCHLOCK (		vg 1 2 3 1P3W	4 5 8 INTEG
85+ 151 151 152 151	0.00mA 0.0000 0.0000 0.0000 0.0000 V					实时波形 波形设置
15 15 13	0.00mA 0.00mA 0.00mA 0.0000			16 15	0.00mA 0.00mA 0.00mA	
			150m		300m	5
UPD	ATE 000	1179(500ms)	B "MEN!" ##F	振艇设置	1	2006-02-07 14:33:03

Waveform Display





Touchscreen setting

#### Channel configuration

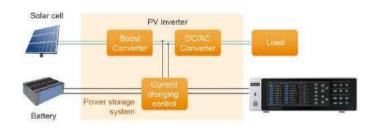
The multi-channel power analyzer supports various wiring configurations, including 1P2W, 1P3W, 3P3W, 3V3A, 3P4W, etc. In these configurations, adjacent input units with numbers greater than the currently selected unit are grouped together as a wiring set.

Wiring method	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
1P2W	1P2W	1P2W	1P2W	1P2W	1P2W	1P2W
1P3W	1P3W	1P3W	1P3W	1P3W	1P3W	
3P3W	3P3W	3P3W	3P3W	3P3W	3P3W	
3V3A	3V3A	3V3A	3V3A	3V3A		
3P4W	3P4W	3P4W	3P4W	3P4W		

# Application

#### Photovoltaic inverter power measurement

- Complies with "GB/T 37409-2019 Technical Specification for Testing of Photovoltaic Grid-Connected Inverters"
- ▼ Voltage range: 0~1000V (DC1500V)
- Current range: 0~50A/current sensor
- Capable of simultaneously measuring input, output (single-phase, three-phase) power, and power factor
- Automatic efficiency calculation
- ▼ 50th harmonic, distortion analysis
- Bidirectional power measurement for buying and selling electricity



Wiring method	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
Single-phase	1P2W	1P2W	1P2W	1P2W	1P2W	1P2W
PV inverters	DC	AC				
Three-phase	3P3	3P3W/3V3A/3P4W			1P2W	1P2W
PV inverters	AC			DC		

#### Electric vehicle electrical performance measurement

- Multi-channel, capable of simultaneously detecting multiple parameters: OBC (On-Board Charger), charging piles efficiency testing, battery charge and discharge performance, power conversion performance, motor performance, etc.
- AC/DC, maximum current 50A, expandable with larger current sensors.

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Power Analyzer \\\

- High accuracy, basic accuracy 0.1%, minimum power resolution 0.1mW
- Capable of measuring instantaneous effective value, average value, peak value, energy consumption, etc., of AC and DC signals.



Wiring method	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
Electric Vehicle	1P2W	1P2W	1P2W	1P2W	1P2W	1P2W

#### Frequency converters power measurement

- Complies with GB12668 standard
- ▼ Power bandwidth: DC, 0.5Hz~100kHz
- Current range: 0~50A/current sensor
- Capable of simultaneously measuring input and output power
- ▼ 50th harmonic, distortion analysis

Wiring method	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
Household appliances	1P2W	1P2W	1P2W	1P2W	1P2W	1P2W
Commercial appliances	3P4W				3P4W	

Wiring method	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
Frequency		W/3V3A/3P4W		3P3W/3V3A/3P4W		
Converter	323	W/SVSA/S	P4VV	323	WISVSAVSI	-4vv

### Power supplies, UPS power measurement ■ Current range: 0~1A/5A/20A/50A

- Power bandwidth: DC, 0.5Hz~100kHz
- Capable of simultaneously measuring input, output (single-phase, three-phase) power, monitoring battery charge and discharge
- Automatic efficiency calculation

iring method	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
LIDE	1P2W	1P2W	1P2W	3P3	W/3V3A/3F	P4W
UPS	Mains Input	Battery	Battery	Powe	er Supply C	utput

#### I Household appliance performance evaluation, standby power consumption measurement

- ▼ Complies with IEC 62301-2011 standard
- Current range: 0~1A/5A/20A/50A, capable of measuring rated power and standby power
- Minimum power resolution: 0.1mW
- ▼ 50th harmonic, distortion analysis

#### Measurement of lighting and LED power

- Current range: 0~1A/5A/50A
- Minimum power resolution: 0.1mW
- Can measure input and output power, power factor, efficiency of the driver power supply
- ▼ 50th harmonic, distortion analysis

Wiring method	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
Lighting	1P2W	1P2W	1P2W	1P2W	1P2W	1P2W

#### Specifications

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Model	AN87660(F)				
Measurement Channels - x	1~6				
Wiring Method	1P2W (Single-phase 2-wire) 1P3W (Single-phase 3-wire) 3P3W (3-phase 3-wire, 2 voltage 2 current)				
5-84	3P3W (3V3A) (3-phase 3-wire, 3 voltage 3 current) 3P4W (3-phase 4-wire)				
Measurement Parameters	Voltage (U), Current (I), Active Power (P), Reactive Power (Q), Apparent Power (S), Power Factor (λ), Voltage Frequency (fU), Current Frequency (fI), Phase Angle (Φ), Efficiency (η), Total Energy (Wh), Forward Energy (Wh+), Reverse Energy (Wh-), Current Integration (Ah), 50th Harmonic Analysis (HDF), Voltage and Current Total Harmonic Distortion (THD), Peak Voltage (Vpk), Peak Current (Ipk), Voltage Peak Factor (CfU), Current Peak Factor (CfI)				
7	Voltage: Approximately 2MΩ, Direct Current Input: Approximately 2.5mΩ (50A specification),				
Input Impedance	Current Sensor Input: Approximately 100kΩ				
AD Sampling Rate	Around 200kS/s				
Peak Crest Factor at Full Range	3 or 6				
AND STATE OF THE S	When the crest factor is 3: 15/30/60/100/150/300/600/1000*[V],				
Voltage Rated Range (direct input)	When the crest factor is 6: 7.5/15/30/50/75/150/300/500*[V],				
SALAN SECURE VI. MICH.	*The maximum range crest factor is 1.5				
Current Rated Range (direct input)	When the crest factor is 3:  20A current: 500m/1/2/5/10/20*[A]  Optional:  50A current: 1/2/5/10/20/50*[A]  5A current: 100m/200m/500m/1/2/5*[A]  1A current: 20m/50m/100m/200m/500m/1*[A]  When the crest factor is 6:  20A current: 250m/0.5/1/2.5/5/10*[A]  Optional:  50A current: 0.5/1/2.5/5/10/25*[A] 2  5A current: 50m/100m/250m/0.5/1/2.5*[A]  1A current: 10m/25m/50m/100m/250m/0.5*[A]  *The maximum range crest factor is 1.5				
current Rated Range (BNC sensor)	Optional: 200m/500m/1/2/5/10[V]				
Voltage, Current Range Accuracy Range	(1%~110%)*xrange *For voltage 1000V and current maximum range, the accuracy range is (1% to 100%) * range				
Power Factor Range	±(0.001 ~ 1.000)				
Voltage Measurement Accuracy	DC ±(0.05% × display value + 0.05% × range)  0.1Hz≤f≤66Hz ±(0.05% × display value + 0.05% × range)  66Hz <f≤1khz (f="" +="" -="" 0.04="" 0.05="" 0.1%="" 0.2%="" 0.3%="" 1)}%="" 10)}%="" 10khz<f≤100khz="" 1khz<f≤10khz="" display="" range)="" range)<="" td="" value="" ±(0.1%="" ±({0.1="" ±({0.5="" ×=""></f≤1khz>				



	DC	±(0.05% × display value + 0.05% × range)
	0.1Hz≤f≤66Hz	±(0.05% × display value + 0.05% × range)
Current Measurement Accuracy	66Hz <f≤1khz< td=""><td>±(0.1% × display value + 0.1% × range)</td></f≤1khz<>	±(0.1% × display value + 0.1% × range)
72	1kHz <f≤10khz< td=""><td><math>\pm ((0.1 \times f)\% \text{ display value} + 0.2\% \times \text{range})</math></td></f≤10khz<>	$\pm ((0.1 \times f)\% \text{ display value} + 0.2\% \times \text{range})$
	10kHz <f≤100khz< td=""><td><math>\pm (\{1 + 0.08 \times (f - 10)\}\% \times display value + 0.3\% \times range)</math></td></f≤100khz<>	$\pm (\{1 + 0.08 \times (f - 10)\}\% \times display value + 0.3\% \times range)$
	DC	±(0.05% × display value + 0.05% × range)
	0.5Hz≤f<45Hz	±(0.1% × display value + 0.1% × range)
	45Hz≤f≤66Hz	±(0.05% × display value + 0.05% × range)
Power Measurement Accuracy	66Hz <f≤1khz< td=""><td>±(0.2% × display value + 0.1% × range)</td></f≤1khz<>	±(0.2% × display value + 0.1% × range)
~ _	1kHz <f≤10khz< td=""><td><math>\pm ((0.2 + 0.1 \times (f - 1))\% \times display value + 0.2\% \times range)</math></td></f≤10khz<>	$\pm ((0.2 + 0.1 \times (f - 1))\% \times display value + 0.2\% \times range)$
	10kHz <f≤50khz< td=""><td><math>\pm ((0.2 + 0.1 \times (f - 1))\% \times display value + 0.3\% \times range)</math></td></f≤50khz<>	$\pm ((0.2 + 0.1 \times (f - 1))\% \times display value + 0.3\% \times range)$
	50kHz <f≤100khz< td=""><td>±({5.1 + 0.18 × (f - 50)}% × display value + 0.3% × range)</td></f≤100khz<>	±({5.1 + 0.18 × (f - 50)}% × display value + 0.3% × range)
Active Power Resolution		0.1mW
Frequency Measurement Range		DC, 0.5Hz ~ 100kHz
Frequency Measurement Accuracy		±0.1% × display value
Harmonic Measurement	11Hz to 60	0Hz, 1 to 50th harmonic content, total distortion
Energy Measurement Range	0 to 99	99999MWh (Resolution: 1mWh / 0.01mAh)
Energy Measurement Accuracy	±(0	.1% × display value + 0.1% × full scale)
Extended Uncertainty	Voltage, currer	nt, power, frequency, and energy accuracy ≤ 0.20%
Filtering Function	500Hz and 5.5k	kHz voltage line, current line, and frequency filtering
Ratio Function		1 ~ 50000
Data Update Cycle		100m / 200m / 500m / 1/ 2 / 5 /10[s]
Control Interface	Standard: RS-232, Digital	Input/Output Interface, Ethernet Port; Optional: RS-485, GPIB
Display		7-inch LCD touchscreen
Dimensions	426×132.5×430.3 (W,f	ront panel)×(H, front pane)×(D,excluding terminal posts)mm
Cutout Dimensions	42	2×128.5 (W, chassis)×(H, chassis) mm
Base Height		17.5 mm
Total Weight		Around7.5 kg

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

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#### [Conditions]

Temperature: 23±5 °C, Humidity: 30%~75%RH, Input Waveform: Sinusoidal Wave, Common Mode Voltage: 0V, Line Filter: OFF, Frequency Filter: ON below 440Hz,

Power Factor λ: 1, Crest Factor: 3. After preheating, under wiring conditions, zero adjustment or change of range.

In the measurement accuracy formula, f represents frequency, with unit kHz.

When the data update rate is 100ms, all accuracies are added to 0.05% of the reading.

Due to the influence of temperature changes after zero adjustment or range change:

Voltage DC accuracy increases by 0.02%/C of the range, Current DC accuracy increases by  $500\mu\text{A}/C$ , External sensor DC accuracy increases by  $50\mu\text{V}/C$ , Power DC accuracy increases by the product of voltage and current influences.

# Compact Multi-channel Power Analyzer AN87400(F)

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Basic accuracy: 0.05% of reading + 0.05% of range
Measurement bandwidth: DC, 0.5Hz - 100kHz

Sampling rate: 200kSps

Maximum voltage: standard 1500VDC

Maximum current: 20A (standard) 1A (optional), supports mixed combinations, optional sensor configuration

LCD Display: touch screen experience, customizable display interface items, and waveform display

■ Data storage: customizable storage projects, CSV format export

Perfect size: 3U half-width size, meeting system integration requirements

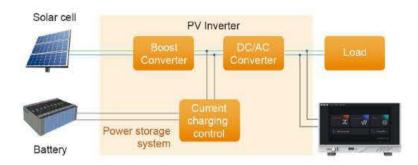
#### Channel Configuration

Wiring method	Channel 1	Channel 2	Channel 3	Channel 4	
Single-phase	1P2W	1P2W	4504	45011	
photovoltaic inverter	DC	AC	1P2W	1P2W	
Three-phase		3P3W/3V3A/3P4W		1P2W	
photovoltaic inverter		AC		DC	
Electric vehicles	1P2W	1P2W	1P2W	1P2W	

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# Power Analyzer \\ Ainuo

## Product Application



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#### Photovoltaic inverter power measurement

- Complying with Testing Specification for Photovoltaic Grid-connected Inverter (GB/T 37409-2019)
- ▼ Voltage range: 0-1,500V
- ▼ Current range: 0-20A/current sensor
- Capable of simultaneous measuring input, output (single-phase and three-phase) power, and power factor
- Automatic efficiency calculation
- Analysis of 100 times harmonics and distortion.
- Bidirectional power measurement for buying and selling electricity



#### Electric vehicle electrical performance measurement

- Multi-channel, capable of simultaneously detecting multiple parameters: OBC efficiency testing, charging station efficiency testing, battery charging and discharging performance, power conversion performance, motor performance, etc.
- AC/DC, with maximum current 20A, expandable to larger current sensors.
- High precision, with basic precision 0.05% and minimum power resolution 0.1mW.
- Capable of measuring instantaneous effective value, average value, peak value of AC/DC signals, energy consumption, etc.

#### Technical Specifications

Model •		AN87400(F)-X			
Measurement Channels - x		1~4			
Wiring Method	1P2W (single-phase 2-wire	), 1P3W (single-phase 3-wire), 3P3W (three-phase 3-wire, 2 voltage 2 current),			
TVIIII WELLOU	3P3W (3V3A) (three-phase	3-wire, 3 voltage 3 current), 3P4W (three-phase 4-wire)			
	Voltage (U), current (I), acti	ve power (P), reactive power (Q), apparent power (S), power factor $(\lambda)$ ,			
	voltage frequency (fU), curr	ent frequency (fl), phase angle ( $\Phi$ ), efficiency ( $\eta$ ), total energy (Wh),			
Measurement Parameters	forward energy (Wh+), reve	rse energy (Wh-), current integration (Ah), 100 times harmonic distortion factor (HDF)			
	total harmonic distortion (Th	HD) of voltage and current, peak voltage (Vpk), peak current (lpk),			
	voltage peak factor (CfU), o	urrent peak factor (CfI)			
WW.74.0244-01-04-04-0		Voltage: approximately 2MΩ,			
Input Impedance	Current direct inp	ut: approximately 10mΩ Current sensor input: approximately 100kΩ			
AD Sampling Rate		Approximate 200kS/s			
Full range peak factor		3 or 6			
Control of the Section (1997) and the Control of th	When	the peak factor is 3: 15/30/60/100/150/300/600/1000 * [V]			
oltage rated ranges (direct input)		n the peak factor is 6: 7.5/15/30/50/75/150/300/500 * [V]			
orango ratios ratigos (alrest inpat)	511021	* Full range peak factor is 1.5			
	When the peak factor is 3:				
		500m/1/2/5/10/20 * [A]			
	20A current specifications: 500m/1/2/5/10/20 * [A]  5A current specifications: 100m/200m/500m/1/2/5 * [A]				
	5A current specifications: 100m/200m/500m/1/2/5 * [A]  1A current specifications: 20m/50m/100m/200m/500m/1 * [A]				
No. 1 and 1	When the peak factor is 6:				
Current rated ranges (direct input)	Company State Company Company Company	250-10 51110 515110 + 143			
	20A current specifications:	-280 Print (1994) 1/2 (1994) 1/2 Print (			
		0m/100m/250m/0.5/1/2.5 * [A]			
	1A current specifications: 10m/25 m/50m/100m/250m/0.5 * [A]				
	* Full range peak factor of a				
Current rated ranges		When the peak factor is 3: 200m/500m/1/2/5/10 [V]			
(BNC sensor)		When the peak factor is 6: 100m/250m/0.5/1/2.5/5 [V]			
Voltage and current range		(1% - 110%) * × range			
accuracy range	* The accuracy r	ange for voltage of 1,000V and current of 20A is (1% - 100%) × range.			
Power factor range		± (0.001 - 1.000)			
	DC	±(0.05% × display value + 0.05% × range)			
	0.1Hz≤f≤66Hz	±(0.05% × display value + 0.05% × range)			
Voltage Measurement Accuracy	66Hz <f≤1khz< td=""><td>±(0.1% × display value + 0.1% × range)</td></f≤1khz<>	±(0.1% × display value + 0.1% × range)			
voltage measurement recordery	1kHz <f≤10khz< td=""><td>±({0.1 + 0.05 × (f - 1)}% × display value + 0.2% × range)</td></f≤10khz<>	±({0.1 + 0.05 × (f - 1)}% × display value + 0.2% × range)			
	10kHz <f≤100khz< td=""><td>±({0.5 + 0.04 × (f - 10)}% × display value + 0.3% × range)</td></f≤100khz<>	±({0.5 + 0.04 × (f - 10)}% × display value + 0.3% × range)			
	TORRIZ STATUORITZ				
	DC	±(0.05% × display value + 0.05% × range)			
		±(0.05% × display value + 0.05% × range)			
Current Managers	0.1Hz≤f≤66Hz	±(0.1% × display value + 0.1% × range)			
Current Measurement Accuracy	66Hz <f≤1khz< td=""><td>±(0.1 × f)% display value + 0.1% \ range)</td></f≤1khz<>	±(0.1 × f)% display value + 0.1% \ range)			
	1kHz <f≤10khz< td=""><td>±((0.1 × 1)% display value + 0.2% × range) ±({1 + 0.08 × (f - 10)}% × display value + 0.3% × range)</td></f≤10khz<>	±((0.1 × 1)% display value + 0.2% × range) ±({1 + 0.08 × (f - 10)}% × display value + 0.3% × range)			
	10kHz <f≤100khz< td=""><td>±((1 ± 0.00 ^ (1 − 10))70 ^ uispiay Value ± 0.370 ^ range)</td></f≤100khz<>	±((1 ± 0.00 ^ (1 − 10))70 ^ uispiay Value ± 0.370 ^ range)			
	DC	±(0.05% × display value + 0.05% × range)			
	0.5Hz≤f<45Hz	±(0.1% × display value + 0.1% × range)			
	45Hz≤f≤66Hz	±(0.05% × display value + 0.05% × range)			
Power Measurement Accuracy	66Hz <f≤1khz< td=""><td>±(0.2% × display value + 0.1% × range)</td></f≤1khz<>	±(0.2% × display value + 0.1% × range)			
	1kHz <f≤10khz< td=""><td>±((0.2 + 0.1 × (f - 1))% × display value + 0.2% × range)</td></f≤10khz<>	±((0.2 + 0.1 × (f - 1))% × display value + 0.2% × range)			
		±({0.2 + 0.1 × (f - 1)}% × display value + 0.3% × range)			
	10kHz <f≤50khz< td=""><td>Internation of the contract of</td></f≤50khz<>	Internation of the contract of			

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#### Active power resolution DC, 0.5Hz - 100kHz Frequency measurement range Frequency measurement accuracy ± 0.1% × display value 11Hz - 600Hz, with maximum 100 times harmonic content and total distortion Harmonic measurement 0 - 99,999MWh (Resolution: 1mWh/0.01mAh) Energy measurement range ± (0.1% × display value + 0.1% × range) Energy measurement accuracy 500Hz and 5.5kHz voltage and current line filters, as well as frequency filtering Filter function Transformation ratio functionality 1 - 50,000 100m/200m/500m/1/2/5/10 [s] Data update cycle Control interface Standard: RS-232, network interface; optional: RS-485, GPIB Communication protocol MODBUS protocol and SCPI protocol 7-inch LCD touch screen Displayer 215 (W) × 133 (H) × 374 (D) mm Appearance size Opening size 215 (W) × 133 (H) mm 15mm Foot height Approximate 4kg Machine weight

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

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#### [Conditions]

- Temperature: 23 ± 5 °C, humidity: 30%-75%RH, input waveform: sine wave, common mode voltage: 0V, line filter: OFF, frequency filter: ON for frequencies below 440Hz, power factor λ: 1, peak factor: 3. After warming up. Under wiring conditions, after zero adjustment or range change.
- In the accuracy formula, f represents frequency in kHz.
- When the data update rate is 100ms, add 0.03% of the reading to all accuracies.
- Due to the effect of temperature changes after zero adjustment or range change: add 0.02%/ C to voltage DC accuracy and range, add 500µA/ C to current DC accuracy, add 50µV/ C to external sensor DC accuracy, and for power DC accuracy, add the product of the voltage and current effects.

# Three-phase Power Analyzer AN87330(F)



#### Product Introduction

The AN87330(F) series high-accuracy power meter adopts the latest FPGA+ARM digital processing system to achieve synchronous sampling, which fully meets the testing needs of three-phase equipment in the fields of motors, home appliances, new energy etc. on the market. It is specially designed for production lines such as automated line and integrated system etc.

# Features

- High performance, wide frequency band: accuracy up to 0.1%, the bandwidth is DC, 0.5Hz~100kHz, suitable for testing of non-sinusoidal wave load.
- True differential synchronous conditioning sampling, guaranteeing super large direct test capability, voltage: 0.15~1000V, current: 5mA~50A/1mA~20A.
- Standard RS232, LAN port, standard MODBUS protocol, to meet the customization needs of multiple protocols, optional RS485, GPIB module.
- Support three-phase interphase angle test.

# Applications /

- Dynamic test of brushless DC motor
- FG signal RMS, peak-peak measurement, duty cycle calculation, wave data analysis.
- Measurement of RMS and frequency of 3-phase back electromotive force.
- Phase angle test

- Power measurement of inverter motor and inverter
- ▼ Power bandwidth DC, 0.5Hz~100kHz
- ¬ Current: 0~20A/current sensor
- Simultaneously measure input and output power
- 50th harmonic and distortion analysis



## Power Analyzer \\ Aint

### Specifications

Model	AN87330(F)
Current	20A
	1P3W (1-phase 3-wire)- 3P3W (3-phase 3-wire,2 voltage 2 current)-
Wiring	3V3A (3-phase 3-wire,3 voltage 3 current) 3P4W (3-phase 4-wire)
	Over ( o phase o who, o vehicle o certain). Si 477 (o phase 4 mile)
Input impedance of all phase	Voltage:approx.2MΩ; Current direct input:approx.10mΩ current sensor input:approx.100kΩ
Full range peak factor	3
Rated voltage(direct input)	15/30/60/100/150/300/600/1000*[V];*1000V full range peak factor:1.5
Rated current(direct input)	100m/200m/500m/1/2/5/10/20*[A];*20A full range peak factor:1.5
Rated current(sensor input) (optional)	50m/100m/200m/500m/1/2/5/10[V]
	(1%~110%) × range; *voltage:1000V range \ current 20A
Voltage/current accuracy	accuracy range(1%~100%) × range
Parise feater	V0.004 4.000
Power factor	±(0.001 ~ 1.000)
	DC:±(0.1% × display + 0.2% × range)
	0.5Hz≤f<45Hz: ±(0.1% × display + 0.2% × range)
Voltage accuracy	45Hz≤f≤66Hz: ±(0.1% × display + 0.1% × range)
vollage dood doy	66Hz <f≤1khz: +="" 0.2%="" display="" range)<="" td="" ±(0.1%="" ×=""></f≤1khz:>
	1kHz <f≤10khz: +="" 0.3%="" display="" f}%="" range)<="" td="" ±({0.07="" ×=""></f≤10khz:>
	10kHz <fs100khz: (f-10)}%="" +="" 0.5%="" display="" display]<="" range),="" td="" ±(0.5%="" ±[{0.04="" ×=""></fs100khz:>
	DC: ±(0.1% × display + 0.2% × range)
	0.5Hz≤f<45Hz; ±(0.1% × display + 0.2% × range)
	45Hz≤f≤66Hz: ±(0.1% × display +0.1% × range)
Current accuracy	66Hz <f≤1khz: +0.2%="" display="" range)<="" td="" ±(0.1%="" ×=""></f≤1khz:>
	1kHz <f≤10khz: +0.3%="" display="" f}%×="" range)<="" td="" ±({0.07="" ×=""></f≤10khz:>
	10kHz <f≤100khz: (f–10)}%="" +="" 0.5%="" display="" display]<="" range),="" td="" ±(0.5%="" ±[{0.04="" ×=""></f≤100khz:>
	DC: ±(0.1% × display + 0.2% × range)
	0.5Hz≤f<45Hz: ±(0.3% × display + 0.2% × range)
	45Hz≤f≤66Hz: ±(0.1% × display + 0.1% × range)
Active power accuracy	66Hz <f≤1khz: +="" 0.2%="" display="" range)<="" td="" ±(0.2%="" ×=""></f≤1khz:>
	1kHz <f≤10khz; (f–1))%="" +="" 0.3%="" display="" display]<="" range),="" td="" ±(0.1%="" ±[(0.067="" ×=""></f≤10khz;>
	10kHz <f≤100khz: (f–10)}%="" +="" 0.5%="" display="" display]<="" range),="" td="" ±(0.5%="" ±[{0.09="" ×=""></f≤100khz:>
ctive power measurement/ resolution	4.4mW~4.4kW/phase @220V, PF=0.01~1 , 0.1mW
Frequency range/accuracy	DC,0.5Hz ~ 100kHz, ±(0.1% × display)
Harmonic measurement	10Hz ~ 600Hz, 1~50th harmonic content, total distortion
Electric energy range/ accuracy	0 ~99999MWh (resolution:1mWh/0.01mAh), ±(0.2% × display)
Electric energy timing	H:9999 Min:59 Sec:59
Filter	500Hz, 5.5kHz voltage line, current line and frequency filter
Ratio	1.0~5000.0
External input change	0.010~100.000
Data update cycle	100m/200m/500m/1/2/5/10[s]
Alarm	Three-phase total voltage, three-phase total current, three-phase total power upper/lower limit, threshold
Control interface	Standard:RS-232, Ethernet; Optional:RS-485, motor measuring board (pulse torque speed sensor)
Communication protocol	Ainuo3.0, Modbus, TCP Modbus

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

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## Single-Phase Power Analyzer AN87310(F)



### Product Introduction

This AN87310(F) series AC/DC power meter adopts STM32 controller as the core and supplemented by FPGA, using direct sampling and intelligent identification technology, widely used in electrical measurements of single-phase electrical equipment, such as voltage, current, power, power factor, frequency, electrical energy, time, harmonics etc., wide range, 4-window LED highlight, simple operation, U disk read/write, serial communication, parameter alarm, voltage/current ratio settings and other functions, multi-purpose, professional and reliable.

### Features

- Universal wide-range design for AC/DC, DC~100kHz bandwidth, stronger load adaptability
- Reliable, stable, compact, light
- Fast measurement, refresh rate up to 0.1s
- Standard RS-232 or RS-485 port, support MODBUS communication, automatic testing

## Applications

- Strict industrial site type test
- High temperature aging room test
- Power tool test
- Lighting test
- Standby power measurement of household appliances and commercial appliances lines
- Current: 1mA~22A/5mA~55A, voltage: 0.15~1200V, rated power and standby power can be measured
- Minimum power resolution: 0.1mW
- 50th harmonic and distortion analysis

.....

## Specifications

Model	AN87310(F)			
Current	20A/50A (optional)			
Wiring	1P2W(1-phase 2-wire)			
Input impedance	Voltage:approx.2MΩ;Current direct input: approx.10mΩ;Current sensor input: approx.100kΩ			
Full range peak factor	3			
Rated voltage (direct input)	15/30/60/100/150/300/600/1000*[V];*1000V Full range peak factor:1.5			
Rated current (direct input)	100m/200m/500m/1/2/5/10/20[A]			
Rated current(sensor input)	50m/100m/200m/500m/1/2/5/10[V]			
Voltage/current accuracy	(1%~110%) × range			
Power factor	±(0.001 ~ 1.000)			
	DC: ±(0.1% × display + 0.2% × range)			
	0.5Hz≤f<45Hz: ±(0.1% × display + 0.2% × range)			
Voltage accuracy	45Hz≤f≤66Hz: ±(0.1% × display + 0.1% × range)			
votage accuracy	66Hz <f≤1khz: +="" 0.2%="" display="" range)<="" td="" ±(0.1%="" ×=""></f≤1khz:>			
	1kHz <f≤10khz: +="" 0.3%="" display="" range)<="" td="" ±({0.07×f}%="" ×=""></f≤10khz:>			
	10kHz <f≤100khz: (f-10)}%="" +="" 0.5%="" display="" display}<="" range),="" td="" ±(0.5%="" ±[{0.04="" ×=""></f≤100khz:>			
	DC: ±(0.1% × display + 0.2% × range)			
Current accuracy	0.5Hz≤f<45Hz: ±(0.1% × display + 0.2% × range)			
	45Hz≤f≤66Hz: ±(0.1% × display + 0.1% × range)			
	66Hz <f≤1khz: +="" 0.2%="" display="" range)<="" td="" ±(0.1%="" ×=""></f≤1khz:>			
	1kHz <f≤10khz: +="" 0.3%="" display="" range)<="" td="" ±({0.07×f}%="" ×=""></f≤10khz:>			
	10kHz <f≤100khz: +="" 0.5%="" display="" display),="" display]<="" td="" ±(0.5%="" ±[(0.04×(f–10))%="" ×=""></f≤100khz:>			
	DC: ±(0.1% × display + 0.2% × range)			
	0.5Hz≤f<45Hz: ±(0.3% × display + 0.2% × range)			
	45Hz≤f≤66Hz: ±(0.1% × display + 0.1% × range)			
Active power accuracy	66Hz <f≤1khz: +="" 0.2%="" display="" range)<="" td="" ±(0.2%="" ×=""></f≤1khz:>			
	1kHz <f≤10khz: (f-1))%="" +="" 0.3%="" display="" display]<="" range),="" td="" ±(0.1%="" ±[(0.067="" ×=""></f≤10khz:>			
	10kHz <f≤100khz: +="" 0.5%="" display="" range),="" range]<="" td="" ±(0.5%="" ±[(0.09×(f-10))%="" ×=""></f≤100khz:>			
Active power range/ resolution	2.2mW~4.4kW@220V,PF=0.01~1, 0.1mW			
Frequency range/accuracy	DC, 0.5Hz~100kHz, ±0.1% × display			
Harmonic measurement	11Hz~600Hz, 1~50th harmonic content, total distortion			
Electric energy range	0 ~ 99999MWh (Resolution:1mWh/0.01mAh), ±0.5% × display			
Electric energy counting	H:9999, Min:59, Sec:59			
Filter	500Hz, 5.5kHz Voltage line, current line and frequency filter			
Ratio	1~5000			
Current Sensor Ratio Range	0.010~100.000 mV/A			
Data update cycle	100m/250m/500m/1/2/5[s]			
Alarm	5groups ,voltage, current, power upper/lower limit, threshold			
Control interface	Standard:RS-232; Optional:RS-485			
Dimension	Dimension:213(W)×88(H)×380(D) mm, Opening:210(W)×85(H) mm, Foot height:15 mm			





Partial Discharge (PD) Tester AN8A10PD(F) Series



Motor Stator/Complete Machine Comprehensive Tester AN8A10RT(F) Series

Features

partial discharge.

site Multi-interface.

database upload, etc.

Measurable It provides the industry's exclusive PD-UHF

Multi-function: One device can support both interturn PD (DC-PD) and withstand voltage PD (AC-PD) at the same

Multi-channel: It supports multi-channel switching, and automatically completes all tests at one wiring to meet the

High performance: It adopts a high signal-to-noise ratio identification algorithm to achieve high sensitivity testing of

High reliability: It has undergone strict working condition

affected by the environmental conditions of the production

interfaces, supports PLC communication, TCP/IP network

tests and millions of tests in complex environments. High stability: The test results are stable and not easily

The system supports USB, RS232, LAN and other

protocol, etc., supports MES docking customization,

measurement and testing solutions.

test needs of multi-winding motors.

## Partial Discharge(PD) Tester AN8A10PD(F) Series



### Product Overview

The tester utilizes advanced RF, high-frequency, and weak signal processing technologies to develop a unique high-frequency partial discharge detection solution. It employs high precision digital signal processing chips to accurately capture the partial discharge signals of the products under test. It is suitable for local discharge test of new energy main drive motor of industrial motor.

### Test items

- PDIV, RPDIV, PDEV, and RPDEV
- PDIV: It refers to the lowest voltage when the test voltage gradually increases from the lower voltage that does not produce partial discharge, and the partial discharge amount exceeds a certain specified value in the test.
- RPDIV: It refers to the lowest voltage when the test voltage gradually increases from the lower voltage that does not produce partial discharge, and the partial discharge amount in the test repeatedly exceeds a specified value.
- PDEV: It refers to the maximum voltage when the test voltage gradually decreases from the higher value exceeding the initial voltage of partial discharge, and the partial discharge amount in the test is less than a specified value.
- RPDEV: It refers to the maximum voltage when the test voltage gradually decreases from a higher value exceeding the initial voltage of partial discharge, and the partial discharge amount is repeatedly less than a certain specified value in the test.

### Software interface









### Specifications

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Produ	ct Name	Partial Discharge (PD) Tester	
	Model	AN8A10PD(F) Series	Customized Paramete
		Range: ( 300-5000) VAC	Energy Boost
	Output Voltage	Allowable Error: ±(2.5%×Setting value+10V);	
	Step Voltage	10V/step	
Impulse PD	Pulse Count	1-32 times	
(DC-PD)	Combo Interval	20ms	
ONTHE STATE OF THE	Step Interval	0.1s-99.0s, Allowable Error: ±(1%×Setting Value+0.1s)	
	Peak Value Range	( 0-120 ) mV	
	Determination Methods	Discharge Level Comparison	
		Range: ( 300~5000) VAC	
	Output Voltage	Allowable Error: ±(1%×Setting Value+2V)	
	Step Voltage	10V/step	
Sine PD	Duration	1-99s	
(AC-PD)	Step Interval	0.1s-99.0s, Allowable Error: ±(1%×Setting Value+0.1s)	
	Peak Value Range	(0-120) mV	
	Determination Methods	Discharge Level Comparison	
	Microwave Sensor	Senses electromagnetic waves generated by discharge	
	Test Range	Distance from the object under test: 10-30cm	
Others	Background Noise	Provide background noise compensation	
	Ambient	Operating Temperature Range: 5-40 °C, Working Humidity Range: 20-80%RH	
	Conditions	Storage Temperature Range: -10-50°C, Storage Humidity Range: 5-90%RH	

The above specifications are subject to change without notice.

P143

Motor Test Scheme \\\

# Motor Stator/Complete Machine Comprehensive Tester AN8A10RT(F) Series



## Product Overview

This tester features resistance, inductance, insulation, withstand voltage, interturn tests and other functions, with all functions tested in one wiring connection. It is a new comprehensive tester with high integration, high precision, practicality, and safety. It is suitable for stator/complete machine test requirements of new energy vehicle motors, household appliance motors, servo motors, stepper motors, fan motors, pump motors, large industrial motors, BLDC motors, etc.

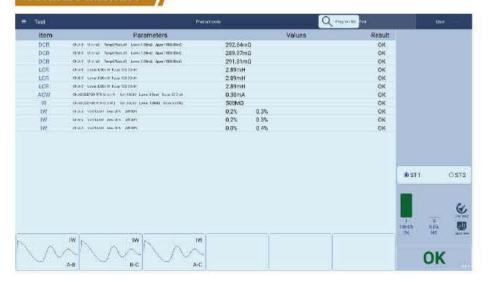
### Features

- High integration: It can integrate 7 test functions and complete all tests with one wiring connection.
- Multi-channel: The system can support up to 32 channels, meeting the needs of testing multiple windings, multiple attachments and other multiple taps of the motor.
- Wide range: The extendable resistance measurement range is 0.1m2~20,000K2; the upper limit of the insulation testing range reaches 50GΩ.
- High performance: In view of the low inductance characteristics of the new energy main drive motor, special constant voltage, impact and oscillation technologies are developed, and the interturn detection ability is many times higher than that of traditional technology.
- High precision: The accuracy of the module can reach up to 1% level, which is the measurement level of the same type of international single-function meter in the United States
- High reliability: It has undergone strict working condition tests and millions of tests in complex environments.
- Multiple interfaces: The system supports USB, RS232, LAN and other interfaces, supports PLC communication, TCP/IP network protocol, etc., which is convenient for data interaction and instrument control, and meets the requirements of automatic production line docking.

### Test items

AC withstand voltage, DC withstand voltage, insulation resistance, DC resistance, resistance balance, interturn, inductance, inductance balance, reverse embedding, steering, etc.

### Software interface









### Specifications

Pro	duct Name	Motor Stator/Complete Machine Comprehensive Te	
	Model	AN8A10RT(F) Series	Customized Parameter
	V4.000000000000000000000000000000000000	Range: (300-3,000)VAC, step size: 10V/step	5,000VAC
	Output voltage	Allowable Error: ±(1%×Setting value+5V)	DCW
Withstand voltage test	5542 4704 60 G	Range: (0.01-20.0)mA	100mA
	Breakdown current	Allowable Error: ±(1% × Reading value + 5 digits)	
	Duration	Range: (1.0-99.9)s, allowable error: ±(1%×Setting value+0.1s)	
	Output voltage	Range: (200-1,000)VDC, step: 5V/step	2,500V
	Output voltage	Allowable Error: ±(1%×Setting value+5V)	
LADORED NO ATTICONO DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR DE LA	Ripple coefficient	<5%	
Insulation test	B. M.	Range: 1.0-500MΩ	50GΩ
	Resistance measurement	Allowable Error: ±(2%×Reading value+2 digits)	
	Duration	Range: (1.0-99.9)s, allowable error: ±(0.1% × Setting value + 2 digits)	
	Testing and measurement	Range: (0.1-20k) Ω, unit Ω	1mΩ~2MΩ
Resistance test	resulty and measurement	Allowable Error: ±(0.3%×Reading value+0.1%×Range)	
	Temperature measurement	(-10.0-60.0)°C, Allowable error: ±0.5 °C	
	Calculation formula	Resistance value - Average resistance  / Average resistance*100%	Others
Resistance balance	Display range	0.0%~99.9%	
Lakanda mar Karak	Impulse voltage	Range: (300-3,000)V, Step: 10V/step	5000V
Interturn test	impulse voltage	Allowable Error: ±(2.5%×Setting value+10V)	3000V
	Combo Interval	20ms	
	Waveform Sampling	100MHz	
Inductance test	Testing Range	1.0uH-1,000.0mH	99.99kH
modiciance test	Basic Accuracy	0.5%	
	Test Frequency	100Hz, 120Hz, 1kHz, 10kHz	
	Test Level	0.1, 0.3, 1.0 (V)	
Rotation test	Decision Parameter	Forward rotation, reverse rotation, and non-rotation	

The above specifications are subject to change without notice.





Lower Power DC Electronic Load AN235(F) Series



High Power DC Electronic Load AN236(F) Series



High Power Bidirectional DC Electronic Load ANEL(F) Series



AC/DC Electronic Load AN29(F) Series

### Lower Power DC Electronic Load AN235(F) Series



### Product Introduction

The AN235(F) Series is a line of low-power DC electronic loads launched by Ainuo Instrument. It comes in two voltage ranges, 150V and 600V, with power ranges from 150W to 1200W. This series of electronic loads is primarily used for testing a variety of products in fields such as chargers, adapters, batteries, LED drivers, low-power switch power supplies, components, relays, military, aerospace, and more. Featuring a new-generation digital controller, the AN235(F) Series offers both conventional and multiple compound modes, along with serialization and automation capabilities. This caters to various needs such as programming and automated testing, making it capable of partially replacing testing systems.

### Features

- Precision measurement technology supports accuracy of voltage 0.015%+0.03%F.S., current 0.03%+0.05%F.S., and power 0.1%+0.1%F.S.
- Built-in dynamic load-pull mode, with a dynamic frequency up to 25kHz, and equipped with Vpk+/- testing capability.
- Built-in LED mode, capable of simulating LED loads for testing LED power supplies.
- Tiny dynamic overshoot magnitude, less than 30% of the set current.
- Built-in constant current(CC), constant voltage(CV), constant resistance(CR), constant power(CP), short circuit simulation, over-current protection testing, serialization testing, and various other functions including automatic testing.

- Comprehensive protection features, supporting over-current, over-voltage, over-temperature, and reverse connection protection, among others.
- Built-in temperature acquisition circuitry and variable-speed fan control.
- Built-in battery mode suitable for discharging tests for energy integration.

Electronic Load \\\

- Flexible interface options, standard RS232, optional
- Lightweight design, featuring an injection-molded casing made of ABS+PC material, providing an elegant and aesthetically pleasing appearance while enhancing overall quality.

### Serialized Models

AN235(F) Series offers a complete range of serialized models for selection, as shown in the following table:

Model	Features	Height	Width
AN23511 V2(F)	150V/30A/150W	20	half width
AN23512 V2(F)	150V/60A/300W	2U	half width
AN23512B V2(F)	600V/15A/300W	2U	half width
AN23513(F)	150V/120A/600W	2U	half width
AN23513B(F)	600V/30A/600W	2U	half width
AN23514(F)	150V/240A/1200W	2U	half width
AN23514B(F)	600V/60A/1200W	2U	half width

Automotive electronics testing, such as fuses, control boxes, etc.

Military and aerospace power supply testing

Testing server power supplies and communication power supplies

Battery discharge testing

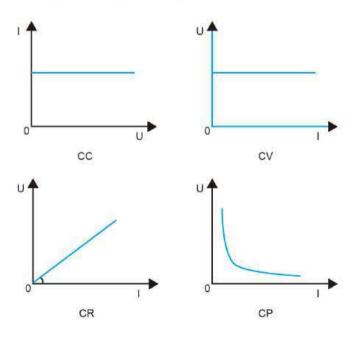
Relay simulation load testing

Testing DC power supplies and power electronic components



### Basic Mode

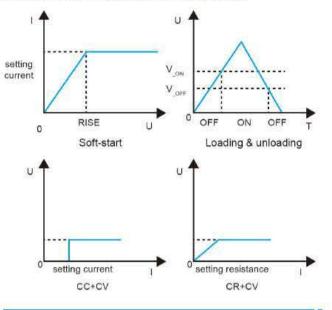
The AN235(F) load incorporates four major basic modes: constant voltage mode(CV), constant current mode(CC), constant resistance mode(CR), and constant power mode(CP), meeting a wide range of testing needs.



### **Composite Mode**

The AN235(F) load integrates four major compound modes: soft start mode, load-unload mode, CC+CV mode, and CR+CV mode, meeting a wide range of testing needs.

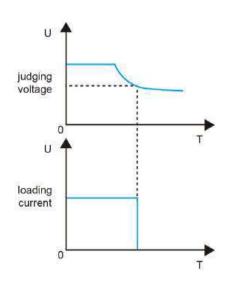
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### BATY Mode - Dedicated Battery Test Mode

The AN235(F) Series load has a constant battery capacity test and discharge via constant current (CC) mode. Voltage threshold can be set for judgment. When the battery voltage drops to the threshold, the loading automatically stops, and the current output of the battery under test is turned off to avoid damage to the battery due to over-discharge.

The load provides a real-time display of the discharge level in Ah. BATY mode is also suitable for supercapacitors and other similar discharge tests.

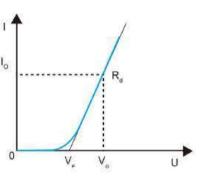


### Adjustable Load Rise/Fall Slope

Various current rise/fall rates can be set for AN235(F) series loads as required. Current change rate: 2.5A/us; time.20us-999999ms,resolution: 20us.

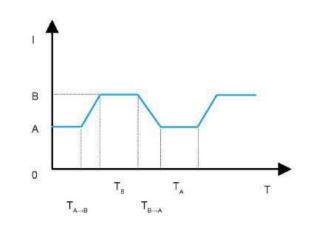
### LED Mode - Simulate LED Load Mode

The AN235(F) Series load has built-in simulated LED load mode, loading as shown below to simulate the characteristics that the current of LED is 0 before it is turned on and rises according to the volt-ampere curve after it is turned on. Electronic load is adopted to simulate loading so as to avoid light pollution or unstable parameters of LED strips and resistive loads.



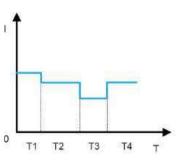
### **CCD Mode - Fast Dynamic Testing**

The AN235(F) Series loads have built-in high-speed dynamic loading test function, with a dynamic change up to 25kHz, including three modes: continuous, pulse, and trigger. You can set the current loading value, loading time, rise/fall time, etc., as shown in the figure below. In addition to dynamically loading, the load also provides peak-to-peak voltage measurement with a sampling frequency of up to 25kHz.



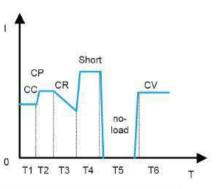
### LIST Mode - Serialized Loading Function

The AN235(F) Series load has built-in simulated LED load mode, loading as shown below to simulate the characteristic that the current of LED is 0 before it is turned on and rises according to the volt-ampere curve after it is turned on. Electronic load is adopted to simulate loading so as to avoid light pollution or unstable parameters of LED strips and resistive loads.



### AutoMode - Automatic Test Function

Up to 8 groups of data can be edited via built-in series test of AN235(F) load. 50 steps can be edited in each group, including three (6)modes: no-load, constant current (CC)constant voltage (CV), constant power (CP), constant resistance (CR), and short-circuit; 4 parameters can be edited, tested and compared: current, voltage, power and resistance, and the delay test time (0.2~100s) can be edited, while considering the speed and accuracy of the test.



### High Precision Measurement

AN235(F) Series load has two levels of voltage/current measurement. Taking AN23514(F) as an example, the voltage is 20V/150V, suitable for low voltage and high voltage applications at the same time; the current is 24A/240Aproviding more accurate current measurements for various applications. High-precision AD, and D/A chips are adopted, some models support accuracy of voltage 0.015%+0.03%F.S., current 0.03%+0.05%F.S., and power 0.1%+0.1%F.S.

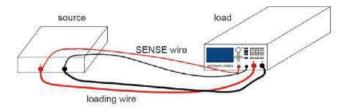
),

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Payer Analysis

### Remote Measurement

AN235(F) Series loads have remote measurement functions. When the current consumption on the load is high, the voltage drop generated by the load terminal, and the connection line between the load and the source under test is high and cannot be ignored, To ensure measurement accuracy, the remote test (SENSE) is added. Select the remote test when the loading current is large or for test items with strict voltage requirements. The SENSE terminal is set at the front operation panel, convenient for wiring.



### I Monitor - Current Monitoring

AN235(F) Series loads have an analog current output terminal (BNC), outputting 0~5.5V analog signal corresponding to 0~maximum current. It can be directly connected to an external voltmeter or oscilloscope through the BNC terminal for real-time monitoring of current waves without additional current problems.

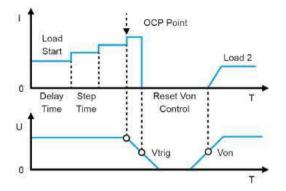
### All-Round Protection

The AN235(F) Series load features high reliability and multiple protection and alarm mechanisms, including OVP (Over Voltage Protection), OCP (Over Current Protection), OTP (Over Temperature Protection), OPP (Over Power Protection), RVP (Reverse Voltage Protection), and SSP (Sense Protection).

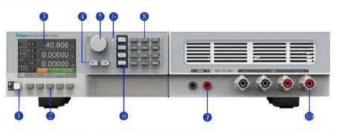
### Precisely Lock The Power Protection Point

AN235(F) Series loads have OCP/OPP functions. Too large an output current of the source under test may cause damage. Therefore, most of the power sources under test have an overcurrent protection function: when overloaded, the output voltage will be reduced or the output will be stopped. Therefore, a test mode for this condition is set for the load - Over Current Test (OCP).

After setting the loading circuit and the threshold voltage, when the load detects that the voltage is less than or equal to the threshold, the loading stops, and at the same time, the current at the moment of protection is displayed on the screen, and the result is judged according to the protection point.



### **Panel Description**



No.	Name	Description
(I)	Power supply switch	AC power supply switch of the electronic load master unit
(2)	F1-F5 Menu	F1-F5, shortcut menu
(3)	Display screen	Shows settings and measured data
4	Direction key	Direction key
(5)	Knob	Used for moving cursor up and down and adjusting parameters
(6)	Tricolor light	Indicator light for load working status
(7)	Vsense terminal	Remote detection of power supply voltage
8	Number keys	Number keys 0-9 and undo key
9	Control button	LOAD, MENU, ESC, ENTER
(11)	DC load terminal	Load terminal



No.	Name	Description
0	I_Monitor	Load current waveform detection
(2)	COM	RS232 or RS485 optional
(3)	PLC	Realize multiple PLC functions (reserved)
4	Power socket	Power input + fuse
(5)	Ground terminal	Connect to the group

### Specifications

Model		AN23511	V2(F)	
10-00-04-04-0111	Range	0-3A	0-30A	
Constant Current Mode(CC)	Set Resolution	0.1mA	1mA	
53 05	Accuracy	0.03%+0.05%F.S.		
	Range	0.1-20V	0.1-150V	
Constant Voltage Mode(CV)	Set Resolution	1mV	10mV	
	Accuracy	0.03%+0.02%F.S.		
Constant Resistance Mode(CR)	Range	0.03Ω-99.999Ω / 100Ω-999	.99Ω / 1000Ω-9999.9Ω	
(When input voltage and	Set Resolution	0.001Ω / 0.01	Ω/0.1Ω	
current values ≥ 10% of full range)	Accuracy	Vin/Rset*(0.2%)	+0.2%IF.S.	
Constant Power Mode(CP)	Range	100W/15	50VV	
(When input voltage and	Set Resolution	1mW/10mW		
current values ≥ 10% of full range)	Accuracy	0.1%+0.1%F.S.		
Voltage Measurement	Range	0-20V	0-150V	
	Measurement Resolution	1mV	10mV	
CONTROL OF ET CONTROL SECTION	Accuracy	0.015%+0.03%F.S.		
	Range	0-3A	0-30A	
Current Measurement	Measurement Resolution	0.01mA	0.1mA	
	Accuracy	0.03%+0.05%F.S.	0.03%+0.08%F.S.	
Power Measurement	Range	100W/150W		
(When input voltage and	Measurement Resolution	1mW/10mW		
current values ≥ 10% of full range)	Accuracy	0.1%+0.19	%F,S.	
Battery Test		Input voltage: Maximum voltage setting, Current resolution: Resolution for this range of curren Time range: 0-99.999 hours		
Dynamic Test		Testing frequency: 0-25kHz, Current change rate: 2.5A/µs, Time range: 20µs - 999,999ms, with a resolution of 20µs		
Current Soft Start Time		0-99999ms, time ad	ocuracy is 20µs.	
Short Circuit Function		≥1.1 times the rang	e of this stage.	
	Working Temperature	0~40	C	
Temperature	Storage Temperature	-25~70	Ċ	
Dimension	W×H×D (mm)	213×88×	401	
Weight	Kg	6.7	6.6	

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

Electronic Load \\

Model		AN2351	2V2(F)	AN23512	2BV2(F)	
140500-4400	Range	0-6A	0-60A	0-3A	0-15A	
Constant Current Mode(CC)	Set Resolution	0.1mA	1mA	0.1mA	1mA	
5 3	Accuracy		0.03%+	0.05%F.S.		
	Range	0.1-20V	0.1-150V	0.1-60V	0.1-600V	
Constant Voltage Mode(CV)	Set Resolution	1mV	10mV	1mV	10mV	
production in the Country of the Cou	Accuracy	0.03%+0.02%F.S.		0.03%+0.02%F.S.	0.03%+0.05%F.S	
Constant Resistance Mode(CR)	Range	- Saaria risk for boots	0.03Ω-99.999Ω / 100Ω-	999.99Ω / 1000Ω-9999.9Ω		
When input voltage and	Set Resolution	0.001Ω / 0.01Ω / 0.1Ω				
current values ≥ 10% of full range)	Accuracy	Vin/Rset*(0.2%)+0.2%IF.S.				
Constant Power Mode(CP)	Range	100W/300W				
When input voltage and	Set Resolution	1mW/10mW				
current values ≥ 10% of full range)	Accuracy	0.1%+0.1%F.S.				
/oltage Measurement	Range	0-20V	0-150V	0-60V	0-600V	
	Measurement Resolution	1mV	10mV	1mV	10mV	
	Accuracy	0.015%+0.03%F.S. 0.015%+0.03%F.S.		0.015%+0.05%F.S		
	Range	0-6A	0-60A	0-3A	0-15A	
Current Measurement	Measurement Resolution	0.01mA	0.1mA	0.01mA	0.1mA	
	Accuracy	0.03%+0.05%F.S.	0.03%+0.08%F.S.	0.03%+0.05%F.S.	0.03%+0.08%F.S	
Power Measurement	Range	100W/300W				
When input voltage and	Measurement Resolution	1mW/10mW				
current values ≥ 10% of full range)	Accuracy		0.1%+	0.1%F.S.		
Battery Test		Input voltage: Maximum voltage setting, Current resolution: Resolution for this range of current, Time range: 0-99.999 hours				
Dynamic Test		Testing frequency: 0-25kHz, Current change rate: 2.5A/µs, Time range: 20µs - 999,999ms, with a resolution of 20µs				
Current Soft Start Time		0-99999ms, time accuracy is 20µs.				
Short Circuit Function		≥1.1 times the range of this stage.				
	Working Temperature		0-	-40°C		
Temperature	Storage Temperature		-25	~70°C		
Dimension	W×H×D (mm)	213×88×401				
Weight	Kg	6.7				

Model		AN23513(F)		AN235	13B(F)	
	Range	0-12A	0-120A	0-3A	0-30A	
Constant Current Mode(CC)	Set Resolution	1mA	10mA	0.1mA	1mA	
127 129	Accuracy	0.05%+0.05%F,S.	0.1%+0.05%F.S.	0.03%+0	.05%F.S.	
Constant Voltage Mode(CV)	Range	0.1-20V	0.1-150V	0.1-60V	0.1-600V	
	Set Resolution	1mV	10mV	1mV	10mV	
	Accuracy	0.03%+0	.02%F.S.	0.03%+0.02%F.S.	0.03%+0.05%F.S	
onstant Resistance Mode(CR)	Range		$0.03\Omega$ -99.999 $\Omega$ / $100\Omega$ -9	999.99Ω / 1000Ω-9999.9Ω		
When input voltage and	Set Resolution		0.001Ω/0	0.01Ω / 0.1Ω		
urrent values ≥ 10% of full range)	Accuracy		Vin/Rset*(0.2	2%)+0.2%IF.S.		
onstant Power Mode(CP)	Range	100W/600W				
When input voltage and	Set Resolution	1mW/10mW				
urrent values ≥ 10% of full range)	Accuracy		0.1%+	0.1%F.S.		
Voltage Measurement	Range	0-20V	0-150V	0-60V	0-600V	
	Measurement Resolution	1mV	10mV	1mV	10mV	
	Accuracy	0.015%+0.03%F.S.		0.015%+0.03%F.S.	0.015%+0.05%F.S	
	Range	0-12A	0-120A	0-3A	0-30A	
urrent Measurement	Measurement Resolution	0.1mA	1mA	0.01mA	0.1mA	
	Accuracy	0.05%+0.05%F.S.	0.1%+0.08%F.S.	0.05%+0.05%F,S.	0.1%+0.08%F.S.	
ower Measurement	Range	100W/600W				
Vhen input voltage and	Measurement Resolution	1mW/10mW				
urrent values ≥ 10% of full range)	Accuracy	0.1%+0.1%F.S.				
attery Test		Input voltage: Maximum voltage setting, Current resolution: Resolution for this range of current, ime range: 0-99.999 hours				
ynamic Test		Testing frequency: 0-25kHz, Current change rate: 2.5A/µs, Time range: 20µs - 999,999ms, with a resolution of 20µs				
current Soft Start Time		0-99999ms, time accuracy is 20µs.				
hort Circuit Function		≥1.1 times the range of this stage.				
5-11-5-11-40-12-	Working Temperature			40°C		
emperature	Storage Temperature		-25	-70°C		
imension	W×H×D (mm)	426×88×460				
Veight	Kg	12.4 12.0				

Any changes	to the above	parameter	specifications	will not be	notified	separately.	
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Model		AN235	14(F)	AN235	14B(F)	
- Company	Range	0-24A	0-240A	0-6A	0-60A	
Constant Current Mode(CC)	Set Resolution	1mA	10mA	0.1mA	1mA	
,	Accuracy	0.05%+0.05%F.S. 0.1%+0.05%F.S. 0.03%+0.05%F.S.			0.05%F.S.	
	Range	0.1-20V	0.1-150V	0.1-60V	0.1-600V	
Constant Voltage Mode(CV)	Set Resolution	1mV	10mV	1mV	10mV	
	Accuracy	0.03%+0	.02%F.S.	0.03%+0.02%F.S.	0.03%+0.05%F.S.	
Constant Resistance Mode(CR)	Range		0.03Ω-99.999Ω / 100Ω-	999.99Ω / 1000Ω-9999.9Ω		
(When input voltage and	Set Resolution		0.001Ω/(	0.01Ω / 0.1Ω		
current values ≥ 10% of full range)	Accuracy	Vin/Rset*(0.2%)+0.2%IF.S.				
Constant Power Mode(CP)	Range		100W	//1200W		
(When input voltage and	Set Resolution	1mW/0.1W				
current values ≥ 10% of full range)	Accuracy	0.1%+0.1%F.S.				
Voltage Measurement	Range	0-20V	0-150V	0-60V	0-600V	
	Measurement Resolution	1mV	10mV	1mV	10mV	
7.5	Accuracy	0.015%+0	0.03%F.S.	0.015%+0.03%F.S.	0.015%+0.05%F.S.	
	Range	0-24A	0-240A	0-6A	0-60A	
Current Measurement	Measurement Resolution	0.1mA	1mA	0.01mA	0.1mA	
	Accuracy	0.05%+0.05%F.S.	0.1%+0.1%F.S.	0.03%+0.05%F.S.	0.03%+0.08%F.S.	
Power Measurement	Range	-100000-1000000000000000000000000000000	100W	/1200W		
(When input voltage and	Measurement Resolution	1mW/0.1W				
current values ≥ 10% of full range)	Accuracy		0.1%+	0.1%F.S.		
Battery Test		Input voltage: Maximum voltage setting, Current resolution: Resolution for this range of current, Time range: 0-99.999 hours				
Dynamic Test		Testing frequency: 0-25kHz, Current change rate: 2.5A/µs,				
		Time range: 20μs - 999,999ms, with a resolution of 20μs				
Current Soft Start Time		0-99999ms, time accuracy is 20µs.				
Short Circuit Function	AAT III	≥1.1 times the range of this stage. 0~40 ℃				
Temperature	Working Temperature Storage Temperature			THE PARTY OF THE P		
Di	Storage remperature W×H×D (mm)	re -25~70℃ 426×88×460				
Dimension	VV×H×D (mm)	40	2.4	THE WATER		
Weight	Ng	12	.40	12	2.0	

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

## High Power DC Electronic Load AN236(F) Series

### Product Introduction

The AN236(F) Series is a new high power DC electronic load introduced by Ainuo Instrument Co., Ltd. It offers voltage ranges of 150V, 600V, and 1,200V, with power ranges from 2kW to 60kW. This series of electronic loads are mainly used for testing products in various fields such as new energy vehicle OBCs, power batteries, charging stations, power electronics, servo/server power supplies, high voltage UPS, military, photovoltaics, grid energy storage, aerospace, and more. Featuring a new generation digital controller, it comes with five basic modes, seven advanced modes, and sequence function to meet users' programming and automation test requirements.

### Features /

- High power density: 6kW in 4U height, and 24kW in 13U height. Compact, light, convenient.
- With precision measurement technology, it supports voltage accuracy of 0.015%+0.015%F.S., current accuracy of 0.04%+0.04%F.S., and power accuracy of 0.1%+0.1%F.S. (maintained constant at high temperatures).
- Built-in dynamic loading mode with a dynamic frequency of up to 25kHz and Vpk+/- test function.
- Built-in FLEX mode for simulating capacitive loads, inductive loads, and complex impedance loads.
- Wide range, offering nearly twice the current range of traditional high power loads with the same capacity.
- Excellent dynamic characteristics, with a maximum current slew rate of 96A/us.
- Built-in functions include constant current(CC), constant voltage(CV), constant resistance(CR), constant power(CP), short circuit simulation, overcurrent protection test, sequence test, etc.
- It has comprehensive protection features including overcurrent, overvoltage, overtemperature, reverse connection, SENSE protection, etc.
- It has a built-in temperature sensing chip and a speed-controlled fan.
- It has a built-in battery mode for discharging tests for energy integration and timing.
- Versatile Interfaces Standard configurations include six communication interfaces: LAN, GPIB, USB, CAN, RS232, and RS485, ensuring seamless integration with various test systems.



### Serialized Models



The AN236(F) Series offers a complete range of models to choose from, as shown in the table below.

	150V	600V	1200V	Height
2kW	AN23602E-150-200(F)	AN23602E-600-140(F)	AN23602E-1200-80(F)	4U
3kW	AN23603E-150-300(F)	AN23603E-600-210(F)	AN23603E-1200-120(F)	4U
4kW	AN23604E-150-400(F)	AN23604E-600-280(F)	AN23604E-1200-160(F)	4U
5kW	AN23605E-150-500(F)	AN23605E-600-350(F)	AN23605E-1200-200(F)	4U
6kW	AN23606E-150-600(F)	AN23606E-600-420(F)	AN23606E-1200-240(F)	4U
8kW	AN23608E-150-800(F)	AN23608E-600-560(F)	AN23608E-1200-320(F)	7U
10kW	AN23610E-150-1000(F)	AN23610E-600-700(F)	AN23610E-1200-400(F)	7U
12kW	AN23612E-150-1200(F)	AN23612E-600-840(F)	AN23612E-1200-480(F)	7U
15kW	AN23615E-150-1500(F)	AN23615E-600-1050(F)	AN23615E-1200-600(F)	10U
18kW	AN23618E-150-1800(F)	AN23618E-600-1260(F)	AN23618E-1200-720(F)	10U
20kW	AN23620E-150-2000(F)	AN23620E-600-1400(F)	AN23620E-1200-800(F)	13U
24kW	AN23624E-150-2400(F)	AN23624E-600-1680(F)	AN23624E-1200-960(F)	13U
30kW	AN23630E-150-2400(F)	AN23630E-600-2100(F)	AN23630E-1200-1200(F)	26U
36kW	AN23636E-150-2400(F)	AN23636E-600-2400(F)	AN23636E-1200-1440(F)	26U
42kW	AN23642E-150-2400(F)	AN23642E-600-2400(F)	AN23642E-1200-1680(F)	34U
48kW	AN23648E-150-2400(F)	AN23648E-600-2400(F)	AN23648E-1200-1920(F)	34U
54kW	AN23654E-150-2400(F)	AN23654E-600-2400(F)	AN23654E-1200-2160(F)	38U
60kW	AN23660E-150-2400(F)	AN23660E-600-2400(F)	AN23660E-1200-2400(F)	33U

Smart manufacturing and industrial motor tests.

Automotive electronics tests, such as fuses, control boxes, etc.

Relay simulation load test.

Military aerospace power test.

Server power supplies, high voltage UPS, and communication power tests.

Battery discharge test.

Virtual load tests for photovoltaic component array and wind power generation.

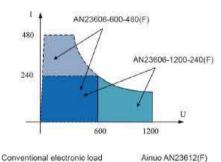
Simulation test for energy storage systems.

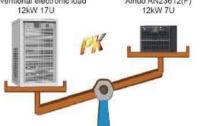
DC power supply and power electronic components.



## High Power Density, Compact and Wide Voltage

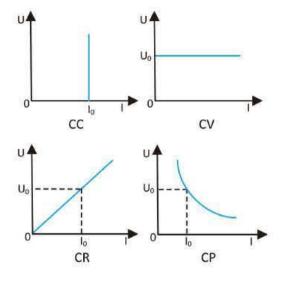
The AN236(F) Series load features a wide input voltage and current range, meeting various testing needs for high current, low voltage, or high voltage, low current. With a high power density design, it has half the volume and one-third of the weight compared to traditional electronic loads.





### Basic Mode

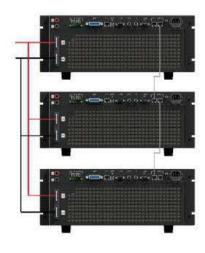
Built-in basic constant voltage(CV), constant current(CC), constant resistance(CR), and constant power(CP) modes, which can meet a wide range of testing needs.



## Master/Slave Parallel Connection – Flexibl Power Configuration

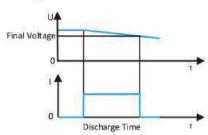
The 23600E(F) series employs digital parallel technology to achieve master/slave parallel functionality, supporting arbitrary parallel connection of different models within the same voltage rating. The maximum number of parallel units is 16, with a maximum combined power of 960 kW and a maximum combined current of 38.4 kA.

In parallel mode, only the master unit requires operation and control, providing the same convenience as a single unit. The master and slave units automatically distribute current and support multiple modes of load testing.



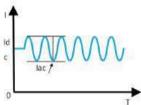
### BATY Mode - Battery Test Dedicated Mode

For batteries, the AN236(F) Series load provides three discharge modes: constant current, constant resistance, and constant power modes. By setting voltage thresholds and test times (1s-100,000s), the electronic load can control the load to prevent over-discharge and battery damage. Additionally, the load also provides a display of the discharged energy. The BATY mode is also suitable for super capacitors and similar discharge testing scenarios.



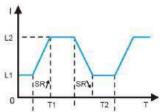
### SWD Mode - Sine Wave Loading

The AN23600E(F) electronic load features a sine wave current loading function, where the current is output in a fixed-frequency sine wave. Users can control the output waveform by adjusting the DC current component (I\_DC), the AC sine wave component (I\_AC), and the sine wave frequency (Frequency). The minimum point of the sine wave loading current must not fall below zero amperes, and the frequency adjustment range is 0–20 kHz. This function is widely used in fuel cell ACIR testing.



### CCD Mode - Rapid Dynamic and Vpp Testing

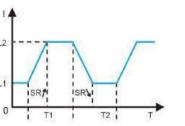
The AN236(F) Series of loads feature built-in high-speed dynamic loading testing capabilities, with dynamic changes possible up to 25kHz. Users can set a repeating number of cycles for a specified period, ranging from 1 to 100,000, or conduct continuous dynamic loading. As illustrated in the diagram below, users can set the high and low loading values of the current, loading time, rise and fall slopes, etc. While conducting dynamic loading, the load also provides measurements of the peak-to-peak voltage, with a sampling frequency of up to 500kHz.



### CRD Mode - Rapid Dynamic and Vpp Testing

Electronic Load \\\

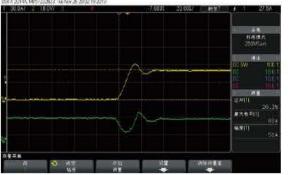
The AN236(F) Series features built-in high-speed dynamic load testing capabilities, with dynamic changes possible up to 25kHz. Users can set a repeating number of cycles for a specified period, ranging from 1 to 100,000, or conduct continuous dynamic loading. As shown in the diagram below, users can set the high and low loading values of the resistance, loading time, rise and fall slopes, etc. While conducting dynamic loading, the load also provides measurements of the peak-to-peak voltage, with a sampling frequency of up to 500kHz.



### CC Mode - Ultra-Fast Loading Speed and Ultra-Low Overshoot

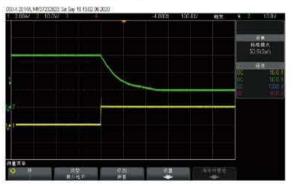
For example, the AN23606E-1200-240(F) can provide a rise speed of 12A/uS. While addressing fast loading issues, the load's built-in digital controller ensures minimal overshoot. The figure below shows the comparison of the current rise waveforms during full-speed loading between the AN236(F) Series load and a certain brand of electronic load.





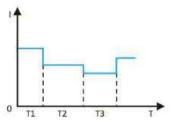
### CV Mode - High-performance Controller with Adjustable Loop Speed

With the increasing application scenarios of constant current sources, the AN236(F) Series load is equipped with an optimized zero-point compensation controller. While meeting the requirements for fast, stable, and accurate loading, it offers three adjustable loop speeds, greatly expanding the load's adaptability. Unlike the ordinary integral lag control, as shown in the figure on the right, there is a distinct predictive control section. The current waveform below shows the "prediction" of the tested power supply at the earliest time, enabling a rapid and stable CV loading process.



### LIST Mode - Sequence Loading Function

The AN236(F) load features a built-in sequence test function that can edit up to 8 sets of data, with each set editable for 200 steps. Each step can be edited for execution time within the range of 0-100s. In scenarios such as battery discharge, server, and communication power mixed load modulation, providing different load current waveforms as an effective supplement for dynamic current tests.



### **High Precision Measurement**

The AN236(F) Series load offers three grade for voltage and current measurements. Taking the AN23606E-1200-240 as an example, it provides voltage ranges of 150V/600V/1,200V, catering to the needs of low, medium, and high voltage ranges. For current measurement, it offers 24A/120A/240A, providing more accurate measurement values for different application scenarios. Utilizing high-precision A/D and D/A chips, it supports accuracies of voltage 0.015%+0.015%F.S., current 0.04%+0.04%F.S., and power 0.1%+0.1%F.S.

### Instantaneous Overpower Function

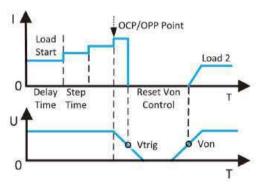
The AN236(F) Series load has an instant 2 times overpower capability, allowing the load to withstand a load capacity exceeding the rated power for a short period of time. This effectively solves the selection issue for impact-type products. Users can select based on the rated power of the power supply or battery, rather than the maximum power, which saves costs and improves adaptability.

Exceeding & Trustworthy

### Precisely Lock Power Protection Point

Too large output current/power of the source under test may cause damage. Therefore, most of the power sources under test have overcurrent/overpower protection: the output voltage is reduced or stopped when overloaded. So this kind of load provides test modes for this situation. Over Current Point, Over Power Point (OCP, OPP).

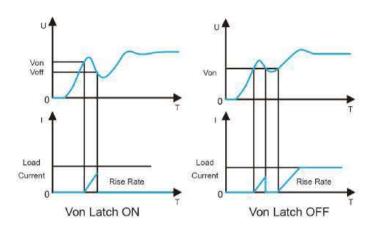
When the load detects that the voltage is less than or equal to the threshold after setting the loading current and the threshold, the loading stops, and the current power at the moment of protection is displayed on the screen, and the result is judged according to the protection point.



### Von/Voff Function - Flexible Voltage Protection

During the power-on moment of the DUT (Device Under Test) when the output hasn't stabilized yet, immediate loading by the load can lead to the failure of the DUT's startup, risking voltage oscillations or damage to the DUT. Some DUTs cannot tolerate excessively low operating voltages, such as battery systems, where over-discharge can cause irreversible damage to the batteries. Therefore, the load provides a flexible automatic load and unload function - Von/Voff.

Once the voltage judgment is set, the load will remain unloaded when the voltage detected is lower than the Von voltage. It will start loading only when the voltage rises above the Von voltage, thus ensuring the startup voltage protection of the DUT. The automatic unload depends on the setting of Von Latch. If set to ON, the load unloads when the voltage is below Voff, and it won't load again. If set to OFF, the load unloads when the voltage is below Von, and it will reload when the voltage is higher than Von.



### Visual Programming Software

Users can test by using the PC software programming load. It will be troublesome to set the series test (List) via load interface but can be set quickly via the graphical interface of the host, cooperated with the wave drawing, convenient for the testers. Over Current Point, Over Power Point (OCP, OPP), the host will store the test results and process data automatically, and generate a test result report.





### Data Acquisition Function

Users can utilize the load's data acquisition function in conjunction with a trigger source to capture instantaneous voltage and current data.

The upper computer software can then plot the data points into waveforms, and the test data can be exported to excel. Sampling time: 1-40 microsecond; resolution: 1 microsecond; Number of sampling points: 1-1,024 (total number of sampling

Trigger source: Load on/Load off/TTL/BUS/Manual.



### **Panel Instructions**



No.	Name	Description
①	Power supply switch	AC power supply switch of the electronic load master unit
2	F1-F5 Menu	F1-F5, shortcut menu
3	Display screen	Shows settings and measured data
4	Direction key	Left and right key
(5)	Knob	Used for moving cursor up and down and adjusting parameters
6	Tricolor light	Indicator light for load working status
0	Control button	LOAD, MENU, ESC, ENTER
8	Number key	Number keys 0-9 and undo key
	Tricolor light Control button	and adjusting parameters Indicator light for load working st LOAD、MENU、ESC、ENTE



Vo.	Name	Description
1	DC load terminal	Load terminal
2	Vsense terminal	Remote detection of power supply voltage
3	RS485&CAN	485 Communication Interface, CAN Communication Interface
4	GPIB	GPIB Communication
(5)	LAN	Standard Ethernet Communication Interface
6	USB-B	Standard USB Communication Interface, PC Connectable
7	RS232	Standard RS232 Communication Interface
8	1 Monitor	Load current waveform detection
9	V_Monitor	Load voltage waveform detection
10	Digtal IO	Multiple input/output signals
1	Parallel terminal	Parallel connection port
12	Ground terminal	Connected to the ground
(13)	Power socket	Power supply input

P157

### Specifications

Ainuo // Electronic Load

Mod	iel	AN23602E -150-200(F)	AN23603E -150-300(F)	AN23604E -150-400(F)	AN23605E -150-500(F)	AN23606E -150-600(F)	AN23608E -150-800(F)		
	Voltage	0-150V							
Working range	Current	0-200A	0-300A	0-400A	0-500A	0-600A	0-800A		
120.0109900890.04099840.	Power	2kW	3kW	4kW	5kW	6kW	8kW		
Minimum wor	king voltage	1.8V@200A	1.8V@300A	1.8V@400A	1.8V@500A	1.8V@600A	1.8V@800A		
Constant current	Range	20/100/200A	30/150/300A	40/200/400A	50/250/500A	60/300/600A	80/400/800A		
	Resolution	0.2/1/2mA	0.2/1/2mA	0.4/2/4mA	0.5/2/5mA	0.5/2/5mA	1/5/10mA		
loading	Accuracy	- STANKANSKA	0.05%+0.05%F.S.						
	Range			16/80	/150V				
Constant voltage	Resolution	0.1/0.5/1mV							
loading	Accuracy	0.025%+0.025%F.S.							
Constant resistance load	Range	15mΩ-150Ω(16V) 60mΩ-600Ω(80V) 1.5Ω-3000Ω(150V)	10mΩ-100Ω(16V) 40mΩ-400Ω(80V) 1Ω-2000Ω(150V)	7.5mΩ-75Ω(16V) 30mΩ-300Ω(80V) 0.75Ω-1500Ω(150V)	5mΩ-50Ω(16V) 20mΩ-200Ω(80V) 0.5Ω-1000Ω(150V)	5mΩ-50Ω(16V) 20mΩ-200Ω(80V) 0.5Ω-1000Ω(150V)	3.8mΩ-37.5Ω(16V) 15mΩ-150Ω(80V) 0.375Ω-750Ω(150V		
	Resolution	2mA/Vsense	2mA/Vsense	4mA/Vsense	5mA/Vsense	5mA/Vsense	10mA/Vsense		
69,500	Accuracy		THE TAXABLE PROPERTY.	Vin/Rset*(0.2	%)+0.2%IF.S.		1 1000000 1000000000		
PARAMETER STEELING	Range	200/1000/2000W	300/1500/3000W	400/2000/4000W	500/2500/5000W	600/3000/6000W	800/4000/8000W		
Constant power	Resolution	5/20/50mW	5/20/50mW	10/50/100mW	10/50/100mW	10/50/100mW	20/100/200mW		
loading	Accuracy		0.2%+0.2%F.S.						
Current change rate	Setting range	0.2mA/us-2A/us (20A) 1mA/us-7A/us (100A) 2mA/us-14A/us (200A)	0.2mA/us-3A/us (30A) 1mA/us-10.5A/us (150A) 2mA/us-21A/us (300A)	0.4mA/us-4A/us (40A) 2mA/us-14A/us (200A) 4mA/us-28A/us (400A)	0.5mA/us-5A/us (50A) 2mA/us-17.5A/us (250A) 5mA/us-35A/us (500A)	0.5mA/us-6A/us (60A) 2mA/us-21A/us (300A) 5mA/us-42A/us (600A)	1mA/us-8A/us (80A) 5mA/us-24A/us (400A) 10mA/us-48A/us (800A)		
	Resolution	0.2/1/2mA/us	0.2/1/2mA/us	0.4/2/4mA/us	1/5/10mA/us	0.5/2/5mA/us	1/5/10 mA/us		
Specification	Dimension			n×177mm×600mm(Wi increased by 201mm v			426 mm×400 mm ×650 mm (W×H×D)		
	Weight	24.5kg	29.5kg	29.5kg	35kg	35kg	61kg		

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

- Company		AN23610E	AN23612E	AN23615E	AN23618E	AN23620E	AN23624E			
Mod		-150-1000(F)	-150-1200(F)	-150-1500(F)	-150-1800(F)	-150-2000(F)	-150-2400(F)			
	Voltage	0-150V								
Working range	Current	0-1000A	0-1200A	0-1500A	0-1800A	0-2000A	0-2400A			
1.74 artes 1.673	Power	10kW	12kW	15kW	18kW	20kW	24kW			
Minimum work	ring voltage	1.8V@1000A	1.8V@1200A	1.8V@1500A	1.8V@1800A	1.8V@2000A	1.8V@2400A			
Constant current	Range	100/500/1000A	120/600/1200A	150/750/1500A	180/900/1800A	200/1000/2000A	240/1200/2400A			
	Resolution	1/5/10mA	1/5/10mA	2/10/20mA	2/10/20mA	2/10/20mA	2/10/20mA			
loading	Accuracy		0.05%+0.05%F.S.							
Constant voltage	Range			16/80	/150V					
Constant voltage	Resolution	0.1/0.5/1mV								
loading	Accuracy			0.025%+0	.025%F.S.	,	v			
		2.5mΩ-25Ω(16V)	2.5mΩ-25Ω(16V)	1.7mΩ-16.67Ω(16V)	1.7mΩ-16.67Ω(16V)	1.3mΩ-12.5Ω(16V)	1.3mΩ-12.5Ω(16V)			
Constant resistance	Range	10mΩ-100Ω(80V)	10mΩ-100Ω(80V)	6.7mΩ-66.67Ω(80V)	6.7mΩ-66.67Ω(80V)	5mΩ-50Ω(80V)	5mΩ-50Ω(80V)			
		0.25Ω-500Ω(150V)	0.25Ω-500Ω(150V)	0.167Ω-333.34Ω(150V)	0.167Ω-333.34Ω(150V)	0.125Ω-250Ω(150V)	0.125Ω-250Ω(150V			
load	Resolution	10mA/Vsense	10mA/Vsense	20mA/Vsense	20mA/Vsense	20mA/Vsense	20mA/Vsense			
227700	Accuracy		100011000110001	Vin/Rset*(0.2	%)+0.2%IF.S.	1 1313 (130) 13033 230 357				
Constant power	Range	1000/5000/10000W	1200/6000/12000W	1500/7500/15000W	1800/9000/18000W	2000/10000/20000W	2400/12000/24000W			
	Resolution	20/100/200mW	20/100/200mW	40/200/400mW	40/200/400mW	40/200/400mW	100/500/1000mW			
loading	Accuracy	0.2%+0.2%F.S.								
Current change	Setting range	1mA/us-10A/us (100A) 5mA/us-27.5A/us (500A)	1mA/us-12A/us (120A) 5mA/us-30A/us (600A)	2mA/us-15A/us (150A) 10mA/us-32A/us (750A)	2mA/us-18A/us (180A) 10mA/us-36A/us (900A)	2mA/us-20A/us (200A) 10mA/us-40A/us (1000A)	2mA/us-24A/us (240A) 10mA/us-48A/us (1200A)			
rate		10mA/us-55A/us (1000A)	10mA/us-60A/us (1200A)	20mA/us-64A/us (1500A)	20mA/us-72A/us (1800A)	20mA/us-80A/us (2000A)	20mA/us-96A/us (2400A)			
	Resolution	1/5/10 mA/us	1/5/10 mA/us	2/10/20 mA/us	2/10/20 mA/us	2/10/20 mA/us	2/10/20 mA/us			
Specification	Dimensions	1707/10000 11/3/	) mm×650 mm :H×D)	426 mm×532 mm×650 mm (W×H×D)		426 mm×665 mm×650 mm (W×H×D)				
-	Weight	66.5kg	72kg	92.5kg	98kg	113kg	124kg			

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

## Specifications

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Mod	lel	AN23630E	AN23636E	AN23642E	AN23648E	AN23654E	AN23660E		
unach	100011	-150-2400(F)	-150-2400(F)	-150-2400(F)	-150-2400(F)	-150-2400(F)	-150-2400(F)		
(325 - 855)	Voltage	0-150V							
Working range	Current	0-2400A	0-2400A	0-2400A	0-2400A	0-2400A	0-2400A		
	Power	30kW	36kW	42kW	48kW	54kW	60kW		
Minimum wor	king voltage	1.8V@2400A	1.8V@2400A	1.8V@2400A	1.8V@2400A	1.8V@2400A	1.8V@2400A		
Constant current	Range	240/1200/2400A	240/1200/2400A	240/1200/2400A	240/1200/2400A	240/1200/2400A	240/1200/2400A		
loading	Resolution	2/10/20mA	2/10/20mA	2/10/20mA	2/10/20mA	2/10/20mA	2/10/20mA		
ioading	Accuracy	0.05%+0.05%F.S.							
Constant voltage	Range			16/80	/150V				
	Resolution	0.1/0.5/1mV							
loading	Accuracy	0.025%+0.025%F.S.							
Constant resistance load		1.3mΩ-12.5Ω(16V)	1.3mΩ-12.5Ω(16V)	1.3mΩ-12.5Ω(16V)	1.3mΩ-12.5Ω(16V)	1.3mΩ-12.5Ω(16V)	1.3mΩ-12.5Ω(16V		
	Range	5mΩ-50Ω(80V)	5mΩ-50Ω(80V)	5mΩ-50Ω(80V)	5mΩ-50Ω(80V)	5mΩ-50Ω(80V)	5mΩ-50Ω(80V)		
		0.125Ω-250Ω(150V)	0.125Ω-250Ω(150V)	0.125Ω-250Ω(150V)	0.125Ω-250Ω(150V)	0.125Ω-250Ω(150V)	0.125Ω-250Ω(150\		
	Resolution	20mA/Vsense	20mA/Vsense	20mA/Vsense	20mA/Vsense	20mA/Vsense	20mA/Vsense		
500,000	Accuracy	Vin/Rset*(0.2%)+0.2%IF.S.							
0	Range	3000/15000/30000W	3600/18000/36000W	4200/21000/42000W	4800/24000/48000W	5400/27000/54000W	6000/30000/60000V		
Constant power	Resolution	200/1000/2000mW	200/1000/2000mW	200/1000/2000mW	200/1000/2000mW	400/2000/4000mW	400/2000/4000mW		
loading	Accuracy	0.2%+0.2%F.S.							
		2mA/us-24A/us (240A)	2mA/us-24A/us (240A)	2mA/us-24A/us (240A)	2mA/us-24A/us (240A)	2mA/us-24A/us (240A)	2mA/us-24A/us (240A)		
Current change rate	Setting range	10mA/us-48A/us (1200A) 20mA/us-96A/us (2400A)	10mA/us-48A/us (1200A) 20mA/us-96A/us (2400A)	10mA/us-48A/us (1200A) 20mA/us-96A/us (2400A)	10mA/us-48A/us (1200A) 20mA/us-96A/us (2400A)	10mA/us-48A/us (1200A) 20mA/us-96A/us (2400A)	10mA/us-48A/us (1200A) 20mA/us-96A/us (2400A)		
	Resolution	2/10/20 mA/us							
Specification	Dimensions	610 mm×1410 mm ×800 mm (W×H×D)	610 mm×1410mm ×800 mm (W×H×D)	610 mm×1762 mm ×800 mm (W×H×D)	610 mm×1762 mm ×800 mm (W×H×D)	610 mm×1940 mm ×800 mm (W×H×D)	610 mm×1720 mm ×800 mm (W×H×D)		
	Weight	205kg	231kg	272kg	298kg	435kg	469kg		

Мос	fel	AN23602E -600-140(F)	AN23603E -600-210(F)	AN23604E -600-280(F)	AN23605E -600-350(F)	AN23606E -600-420(F)	AN23608E -600-560(F)		
	Voltage	0-600V							
Working range	Current	0-140A	0-210A	0-280A	0-350A	0-420A	0-560A		
	Power	2kW	3kW	4kW	5kW	6kW	8kW		
Minimum wor	king voltage	14V@140A	14V@210A	14V@280A	14V@350A	14V@420A	14V@560A		
	Range	14/70/140A	21/105/210A	28/140/280A	35/175/350A	42/210/420A	56/280/560A		
Constant current	Resolution	0.2/1/2mA	0.2/1/2mA	0.4/2/4mA	0.4/2/4mA	0.4/2/4mA	0.5/2/5mA		
loading	Accuracy	100000000000000000000000000000000000000	No in the control of	0.05%+0	0.05%F.S.		Vocet-treer		
water water	Range			80/15	0/600V				
Constant voltage	Resolution			0.5/1	/5mV				
loading	Accuracy	0.025%+0.025%F.S.							
	With the second	0.15Ω-1500Ω(80V)	0.1Ω-1000Ω(80V)	75mΩ-750Ω(80V)	50mΩ-500Ω(80V)	50mΩ-500Ω(80V)	38mΩ-375Ω(80V		
Constant resistance load	Range	0.6Ω-6000Ω(150V) 6Ω-12000Ω(600V)	0.4Ω-4000Ω(150V) 4Ω-8000Ω(600V)	300mΩ-3000Ω(150V) 3Ω-6000Ω(600V)	200mΩ-2000Ω(150V) 2Ω-4000Ω(600V)	200mΩ-2000Ω(150V) 2Ω-4000Ω(600V	150mΩ-1.5kΩ(150 1.5Ω-3kΩ(600V)		
	Resolution	2mA/Vsense	2mA/Vsense	4mA/Vsense	4mA/Vsense	4mA/Vsense	5mA/Vsense		
MASSA:	Accuracy		14	Vin/Rset*(0.2	%)+0.2%IF.S.	1 1/2/2006/2009			
WEETER REPORTED STREETS	Range	200/1000/2000W	300/1500/3000W	400/2000/4000W	500/2500/5000W	600/3000/6000W	800/4000/8000W		
Constant power	Resolution	5/20/50mW	5/20/50mW	10/50/100mW	10/50/100mW	10/50/100mW	20/100/200mW		
loading	Accuracy								
Current change rate	Setting range	0.2mA/us-0.6A/us (14A) 1mA/us-3A/us (70A) 2mA/us-6A/us (140A)	0.2mA/us-0.9A/us (21A) 1mA/us-4.5A/us (105A) 2mA/us-9A/us (210A)	0.4mA/us-1.2A/us (28A) 2mA/us-6A/us (140A) 4mA/us-12A/us (280A)	0.4mA/us-1.5A/us (35A) 2mA/us-7.5A/us (175A) 4mA/us-15A/us (350A)	0.4mA/us-1.8A/us (42A) 2mA/us-9A/us (210A) 4mA/us-18A/us (420A)	0.5mA/us-1.8A/us (56A) 2mA/us-9A/us (280A) 5mA/us-18A/us (560A)		
	Resolution	0.2/1/2mA/us	0.2/1/2mA/us	0.4/2/4mA/us	0.4/2/4mA/us	0.4/2/4mA/us	0.5/2/5mA/us		
Specification	Dimensions			n×177mm×600mm(W ncreased by 201mm	(i) (iii)		426 mm×400 mm ×650 mm (W×H×D)		
	Weight	24.5kg	29.5kg	29.5kg	35kg	35kg	61kg		

## Specifications

Mode	al .	AN23610E	AN23612E	AN23615E	AN23618E	AN23620E	AN23624E			
Mod	5/.	-600-700(F)	-600-840(F)	-600-1050(F)	-600-1260(F)	-600-1400(F)	-600-1680(F)			
HER THE	Voltage	0-600V								
Working range	Current	0-700A	0-840A	0-1050A	0-1260A	0-1400A	0-1680A			
1.00 00000 LP 0000000	Power	10kW	12kW	15kW	18kW	20kW	24kW			
Minimum work	king voltage	14V@700A	14V@840A	14V@1050A	14V@1260A	14V@1400A	14V@1680A			
Constant current	Range	70/350/700A	84/420/840A	105/525/1050A	128/630/1260A	140/700/1400A	168/840/1680A			
loading	Resolution	0.5/2.5/5mA	1/5/10mA	1/5/10mA	1/5/10mA	2/10/20mA	2/10/20mA			
loading	Accuracy	0.05%+0.05%F.S.								
Constant voltage	Range			80/150	/600V					
loading	Resolution	0.5/1/5mV								
loading	Accuracy	0.025%+0.025%F.S.								
	200000000000000000000000000000000000000	25mΩ-250Ω(80V)	25mΩ-250Ω(80V)	17mΩ-166.67Ω(80V)	17mΩ-166.67Ω(80V)	13mΩ-125Ω(80V)	13mΩ-125Ω(80V)			
Constant resistance	Range	0.1Ω-1000Ω(150V)	0.1Ω-1000Ω(150V)	67Ω-666.67Ω(150V)	$67\Omega$ - $666.67\Omega$ (150V)	50mΩ-500Ω(150V)	50mΩ-500Ω(150V)			
		1Ω-2000Ω(600V)	1Ω-2000Ω(600V)	0.67Ω-1333.34Ω(600V)	0.67Ω-1333.34Ω(600V)	0.5Ω-1000Ω(600V)	0.5Ω-1000Ω(600V)			
load	Resolution	5mA/Vsense	10mA/Vsense	10mA/Vsense	10mA/Vsense	20mA/Vsense	20mA/Vsense			
10000	Accuracy	Vin/Rset*(0.2%)+0.2%(F.S.								
Constant power	Range	1000/5000/10000W	1200/6000/12000W	1500/7500/15000W	1800/9000/18000W	2000/10000/20000W	2400/12000/24000W			
35	Resolution	20/100/200mW	20/100/200mW	40/200/400mW	40/200/400mW	100/500/1000mW	100/500/1000mW			
loading	Accuracy			0.2%+0	2%F.S.					
	72.200.000.000	0.5mA/us-2.1A/us	1mA/us-2.4A/us	1mA/us-2.7A/us	1mA/us-3A/us	2mA/us-3.3A/us	2mA/uş-3.6A/us			
		(70A)	(84A)	(105A)	(128A)	(140A)	(168A)			
Current change	Setting range	2.5mA/us-10.5A/us	5mA/us-12A/us	5mA/us-13.5A/us	5mA/us-15A/us	10mA/us-16.5A/us	10mA/us-18A/us			
	Setting range	(350A)	(420A)	(525A)	(630A)	(700A)	(840A)			
rate		5mA/us-21A/us	10mA/us-24A/us	10mA/us-27A/us	10mA/us-30A/us	20mA/us-33A/us	20mA/us-36A/us			
		(700A)	(840A)	(1050A)	(1260A)	(1400A)	(1680A)			
	Resolution	0.5/2.5/5mA/us	1/5/10mA/us	1/5/10mA/us	1/5/10mA/us	2/10/20mA/us	2/10/20mA/us			
Specification	Dimensions	426 mm×400	mm×650 mm H×D)	426 mm×532 mm×650 mm (W×H×D)		426 mm×665 mm×650 mm (W×H×D)				
Opecinication	Weight	66.5kg	72kg	92.5kg	98kg	113kg	124kg			

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

Mod	tol	AN23630E	AN23636E	AN23642E	AN23648E	AN23654E	AN23660E				
- IVIO	(S)	-600-2100(F)	-600-2400(F)	-600-2400(F)	-600-2400(F)	-600-2400(F)	-600-2400(F)				
(200.1 100.0)	Voltage	70.210.000	0-600V								
Working range	Current	0-2100A	0-2400A	0-2400A	0-2400A	0-2400A	0-2400A				
List Colored State	Power	30kW	36kW	42kW	48kW	54kW	60kW				
Minimum wor	king voltage	14V@2100A	14V@2400A	14V@2400A	14V@2400A	14V@2400A	14V@2400A				
Constant current	Range	210/1050/2100A	240/1200/2400A	240/1200/2400A	240/1200/2400A	240/1200/2400A	240/1200/2400A				
loading	Resolution	2/10/20mA	2/10/20mA	2/10/20mA	2/10/20mA	2/10/20mA	2/10/20mA				
loading	Accuracy		0.05%+0.05%F,S.								
Constant voltage	Range			80/150	0/600V						
loading	Resolution	0.5/1/5mV									
loading	Accuracy	0.025%+0.025%F.S.									
	77.00.00.00.00	10mΩ-100Ω(80V)	9mΩ-87.5Ω(80V)	9mΩ-87.5Ω(80V)	9mΩ-87.5Ω(80V)	9mΩ-87.5Ω(80V)	9mΩ-87.5Ω(80V)				
Constant resistance	Range	40mΩ-400Ω(150V)	4mΩ-350Ω(150V)	4mΩ-350Ω(150V)	4mΩ-350Ω(150V)	4mΩ-350Ω(150V)	4mΩ-350Ω(150V)				
		0.4Ω-800Ω(600V)	0.35Ω-700Ω(600V)	0.35Ω-700Ω(600V)	0.35Ω-700Ω(600V)	0.35Ω-700Ω(600V)	0.35Ω-700Ω(600V)				
load	Resolution	20mA/Vsense	20mA/Vsense	20mA/Vsense	20mA/Vsense	20mA/Vsense	20mA/Vsense				
23744	Accuracy			Vin/Rset*(0.2	%)+0.2%IF.S.						
Constant power	Range	3000/15000/30000W	3600/18000/36000W	4200/21000/42000W	4800/24000/48000W	5400/27000/54000W	6000/30000/60000W				
2	Resolution	200/1000/2000mW	200/1000/2000mW	200/1000/2000mW	200/1000/2000mW	400/2000/4000mW	400/2000/4000mW				
loading	Accuracy	0.2%+0.2%F.S.									
		2mA/us-3.6A/us (210A)	2mA/us-3.6A/us (240A)	2mA/us-3.6A/us (240A)	2mA/us-3.6A/us (240A)	2mA/us-3.6A/us (240A)	2mA/us-3.6A/us (240A)				
Current change	Setting range	10mA/us-18A/us (1050A)	10mA/us-18A/us (1200A)	10mA/us-18A/us (1200A)	10mA/us-18A/us (1200A)	10mA/us-18A/us (1200A)	10mA/us-18A/us (1200A)				
rate		20mA/us-36A/us (2100A)	20mA/us-36A/us (2400A)	20mA/us-36A/us (2400A)	20mA/us-36A/us (2400A)	20mA/us-36A/us (2400A)	20mA/us-36A/us (2400A)				
	Resolution	2/10/20mA/us	2/10/20mA/us	2/10/20mA/us	2/10/20mA/us	2/10/20mA/us	2/10/20mA/us				
Specification	Dimensions	610 mm×1410 mm ×800 mm (W×H×D)	610 mm×1410 mm ×800 mm (W×H×D)	610 mm×1762 mm ×800 mm (W×H×D)	610 mm×1762 mm ×800 mm (W×H×D)	610 mm×1940 mm ×800 mm (W×H×D)	610 mm×1720 mm ×800 mm (W×H×D)				
	Weight	205kg	231kg	272kg	298kg	435kg	469kg				

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

### Specifications

Mod	fel	AN23602E -1200-80(F)	AN23603E -1200-120(F)	AN23604E -1200-160(F)	AN23605E -1200-200(F)	AN23606E -1200-240(F)	AN23608E -1200-320(F)		
	Voltage	Carried Manager M	William Control (Control (C	0-12	00V	- Committee of the Comm			
Working range	Current	0-80A	0-120A	0-160A	0-200A	0-240A	0-320A		
012342427441762	Power	2kW	3kW	4kW	5kW	6kW	8kW		
Minimum wor	king voltage	20V@80A	20V@120A	20V@160A	20V@200A	20V@240A	20V@320A		
20 30 00 10	Range	8/40/80A	12/60/120A	16/80/160A	20/100/200A	24/120/240A	32/160/320A		
Constant current	Resolution	0.1/0.5/1mA	0.1/0.5/1mA	0.2/1/2mA	0.2/1/2mA	0.2/1/2mA	0.4/2/4mA		
loading	Accuracy	310-11-11-11-11-11-11-11-11-11-11-11-11-1	0.04%+0.06%F.S.						
A	Range			150/600	/1200V				
Constant voltage	Resolution			1/5/1	0mV				
loading	Accuracy	0.025%+0.025%F.S.							
	- NAME OF THE PARTY OF THE PART	0.3Ω-3kΩ(150V)	0.2Ω-2kΩ(150V)	0.15Ω-1.5kΩ(150V)	0.1Ω-1kΩ(150V)	0.1Ω-1kΩ(150V)	75mΩ-0.75kΩ(150\		
Constant resistance	Range	1.2Ω-12kΩ(600V) 30Ω-60kΩ(1200V)	0.8Ω-8kΩ(600V) 20Ω-40kΩ(1200V)	0.6Ω-6kΩ(600V) 15Ω-30kΩ(1200V)	0.4Ω-4kΩ(600V) 10Ω-20kΩ(1200V)	0.4Ω-4kΩ(600V) 10Ω-20kΩ(1200V)	0.3Ω-3kΩ(600V) 7.5Ω-15kΩ(1200V		
	Resolution	1mA/Vsense	1mA/Vsense	2mA/Vsense	2mA/Vsense	2mA/Vsense	4mA/Vsense		
load	175571757	Imavsense	Imavvsense	Vin/Rset*(0.29		2ma/vsense	4mA/vsense		
	Accuracy	200/1000/2000W	800/4000/8000W						
Constant power	Range Resolution	5/20/50mW	300/1500/3000W 5/20/50mW	400/2000/4000W 10/50/100mW	500/2500/5000W 10/50/100mW	600/3000/6000W 10/50/100mW	20/100/200mW		
loading		0/20/00MVV	5/2U/5Umvv	0.2%+0		10/50/100mvv	20/100/200mvv		
AD CITON	Accuracy	04-14-0414	0.40.40.604		77.7.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.	00-46-4046-	0.4-44-4.044-		
Current change	Setting range	0.1mA/us-0.4A/us (8A) 0.5mA/us-2A/us (40A)	0.1mA/us-0.6A/us (12A) 0.5mA/us-3A/us (60A)	0.2mA/us-0.8A/us (16A) 1mA/us-4A/us (80A)	0.2mA/us-1A/us (20A) 1mA/us-5A/us (100A)	0.2mA/us-1.2A/us (24A) 1mA/us-6A/us (120A)	0.4mA/us-1.2A/us (32A) 2mA/us-6A/us (160A)		
rate	700000000000000000000000000000000000000	1mA/us-4A/us (80A)	1mA/us-6A/us (120A)	2mA/us-8A/us (160A)	2mA/us-10A/us (200A)	2mA/us-12A/us (240A)	4mA/us-12A/us (320A)		
	Resolution	0.1/0.5/1mA/us	0.1/0.5/1mA/us	0.2/1/2mA/us	0.2/1/2mA/us	0.2/1/2mA/us	0.4/2/4mA/us		
Specification	Dimensions			×177mm×600mm(W× ncreased by 201mm w			426 mm×400 mm ×650 mm (W×H×D)		
	Weight	24.5kg	29.5kg	29.5kg	35kg	35kg	61kg		

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

Mod	lel	AN23610E -1200-400(F)	AN23612E -1200-480(F)	AN23615E -1200-600(F)	AN23618E -1200-720(F)	AN23620E -1200-800(F)	AN23624E -1200-960(F)			
	Voltage	0-1200V								
Working range	Current	0-400A	0-480A	0-600A	0-720A	0-800A	0-960A			
	Power	10kW	12kW	15kW	18kW	20kW	24kW			
Minimum wor	king voltage	20V@400A	20V@480A	20V@600A	20V@720A	20V@800A	20V@960A			
ES A NO W	Range	40/200/400A	48/240/480A	60/300/600A	72/360/720A	80/400/800A	96/480/960A			
Constant current	Resolution	0.4/2/4mA	0.5/2/5mA	0.5/2/5mA	0.5/2/5mA	1/5/10mA	1/5/10mA			
loading	Accuracy	0.04%+D.06%F.S.								
~	Range			150/600	0/1200V					
Constant voltage	Resolution		1/5/10mV							
loading	Accuracy	0.025%+0.025%F.S.								
Constant resistance load		50mΩ-0.5kΩ(150V)	50mΩ-0.5kΩ(150V)	34mΩ-0.34kΩ(150V)	34mΩ-0.34kΩ(150V)	25mΩ-0.25kΩ(150V)	25mΩ-0.25kΩ(150V			
	Range	0.2Ω-2kΩ(600V)	0.2Ω-2kΩ(600V)	0.14Ω-1.34kΩ(600V)	0.14Ω-1.34kΩ(600V)	0.1Ω-1kΩ(600V)	0.1Ω-1kΩ(600V)			
		5Ω-10kΩ(1200V)	5Ω-10kΩ(1200V)	3.34Ω-6.67kΩ(1200V)	3.34Ω-6.67kΩ(1200V)	2.5Ω-5kΩ(1200V)	2.5Ω-5kΩ(1200V)			
	Resolution	4mA/Vsense	5mA/Vsense	5mA/Vsense	5mA/Vsense	10mA/Vsense	10mA/Vsense			
Million Million	Accuracy	Vin/Rset*(0.2%)+0.2%IF.S.								
6111111111111111	Range	1000/5000/10000W	1200/6000/12000W	1500/7500/15000W	1800/9000/18000W	2000/10000/20000W	2400/12000/24000V			
Constant power	Resolution	20/100/200mW	20/100/200mW	40/200/400mW	40/200/400mW	100/500/1000mW	100/500/1000mW			
loading	Accuracy	0.2%+0.2%F.S.								
	3000	0.4mA/us-1.4A/us (40A)	0.4mA/us-1.6A/us (48A)	0.5mA/us-1.8A/us (60A)	0.5mA/us-2A/us (72A)	1mA/us-2.2A/us (80A)	1mA/us-2.4A/us (96A)			
Current change rate	Setting range	2mA/us-7A/us (200A) 4mA/us-14A/us	2mA/us-8A/us (240A) 4mA/us-16A/us	2mA/us-9A/us (300A) 5mA/us-18A/us	2mA/us-10A/us (360A) 5mA/us-20A/us	5mA/us-11A/us (400A) 10mA/us-22A/us	5mA/us-12A/us (480A) 10mA/us-24A/us			
	Resolution	(400A) 0.4/2/4mA/us	(480A) 0.4/2/4mA/us	(600A) 0.5/2/5mA/us	(720A) 0.5/2/5mA/us	(800A) 1/5/10mA/us	(960A) 1/5/10mA/us			
Specification	Dimensions	127.000	×400 mm (W×H×D)		×532 mm (W×H×D)	426 mm×665 mm ×650 mm(W×H×D)				
	Weight	66.5kg	72kg	92.5kg	98kg	113kg	124kg			

Exceeding & Trustworthy

Exceeding & Trustworthy



### **Specifications**

Mod	fel	AN23630E -1200-1200(F)	AN23636E -1200-1440(F)	AN23642E -1200-1680(F)	AN23648E -1200-1920(F)	AN23654E -1200-2160(F)	AN23660E -1200-2400(F)			
	Voltage	=1555=1555(0)	0-1200V							
Working range	Current	0-1200A	0-1440A	0-1680A	0-1920A	0-2160A	0-2400A			
	Power	30kW	36kW	42kW	48kW	54kW	60kW			
Minimum wor	king voltage	20V@1200A	20V@1440A	20V@1680A	20V@1920A	20V@2160A	20V@2400A			
2 7 7 3	Range	120/600/1200A	144/720/1440A	168/840/1680A	192/960/1920A	216/1080/2160A	240/1200/2400A			
Constant current	Resolution	1/5/10mA	2/10/20mA	2/10/20mA	2/10/20mA	2/10/20mA	2/10/20mA			
loading	Accuracy	0.04%+0.06%F.S.								
201100000000000000000000000000000000000	Range			150/600	0/1200V					
Constant voltage	Resolution			1/5/1	0mV					
loading	Accuracy	0.025%+0.025%F.S.								
Constant resistance		20mΩ-0.2kΩ(150V)	17mΩ-0.17kΩ(150V)	14mΩ-0.14kΩ(150V)	13mΩ-0.13kΩ(150V)	11mΩ-0.11kΩ(150V)	10mΩ-0.1kΩ(150V			
	Range	80mΩ-0.8kΩ(600V)	67mΩ-0.67kΩ(600V)	57mΩ-0.57kΩ(600V)	50mΩ-0.5kΩ(600V)	44mΩ- 0.44kΩ(600V)	40mΩ-0.4kΩ(600V			
		2Ω-4kΩ(1200V)	1.67Ω-3.33kΩ(1200V)	1.43Ω-2.86kΩ(1200V)	1.25Ω-2.5kΩ(1200V)	1.11Ω-2.22kΩ(1200V)	1Ω-2kΩ(1200V)			
load	Resolution	10mA/Vsense	20mA/Vsense	20mA/Vsense	20mA/Vsense	20mA/Vsense	20mA/Vsense			
9820	Accuracy	Vin/Rset*(0.2%)+0.2%IF.S.								
Complement	Range	3000/15000/30000W	3600/18000/36000W	4200/21000/42000W	4800/24000/48000W	5400/27000/54000W	6000/30000/60000W			
Constant power	Resolution	200/1000/2000mW	200/1000/2000mW	200/1000/2000mW	200/1000/2000mW	400/2000/4000mW	400/2000/4000mW			
loading	Accuracy		0.2%+0.2%F.S.							
	A SALAN PRANTING THE PARTY.	1mA/us-2.4A/us (120A)	2mA/us-2.4A/us (144A)	2mA/us-2.4A/us (168A)	2mA/us-2.4A/us (192A)	2mA/us-2.4A/us (216A)	2mA/us-2.4A/us (240A)			
Current change rate	Setting range	5mA/us-12A/us (600A) 10mA/us-24A/us (1200A)	10mA/us-12A/us (720A) 20mA/us-24A/us (1440A)	10mA/us-12A/us (840A) 20mA/us-24A/us (1680A)	10mA/us-12A/us (960A) 20mA/us-24A/us (1920A)	10mA/us-12A/us (1080A) 20mA/us-24A/us (2160A)	10mA/us-12A/us (1200A) 20mA/us-24A/us (2400A)			
-	Resolution	1/5/10mA/us	2/10/20mA/us	2/10/20mA/us	2/10/20mA/us	2/10/20mA/us	2/10/20mA/us			
	Resolution	610 mm×1410mm	610 mm×1410mm	610 mm×1762 mm	610 mm×1762 mm	610 mm×1940 mm	610 mm×1720 mm			
Specification	Dimensions	×800 mm (W×H×D)	×800 mm (W×H×D)	×800 mm (W×H×D)	×800 mm (W×H×D)	×800 mm (W×H×D)	×800 mm (W×H×D)			
-	Weight	205kg	231kg	272kg	298kg	435ka	469kg			

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

Model		Common Parameters				
Vol	tage	150V	600V		1200V	
Composite Impedance	Range	LS: 0.1uH~20uH RS: 30mΩ~20Ω	CL: 30uF~50000uF	RL: Consistent with CR mo	de high grade	
	Resolution	LS: 0.1uH RS: 1 mΩ	CL: 1uF RL	Consistent with CR mode hi	gh grade	
LED Test	Range		coeff: 0.01~1			
Battery Test	Discharge Time	1s~100000s				
	Resolution	1s				
	T1&T2	0.020~99.999ms/100ms~99999ms				
	Resolution	1us/1ms				
Current Dynamics	Accuracy	2us+100ppm				
	Minimum Rise Time	10us(Typical)	20us(Typical)		20us(Typical)	
Current	Range, Resolution	Same as current loading				
Measurement	Accuracy	0.04%+0.04%F.S.			0.04%+0.06%F.S.	
Measurement	Range, Resolution	Same as voltage loading		ading		
Voltage	Accuracy	0.015%+0.015%F.S.				
Measurement	Input Resistance	800kΩ(Typical)	1MΩ(Typical)		2MΩ(Typical)	
Power Measurement	Range, Resolution	Same as power loading				
	Accuracy	0.1%+0.1%IF.S.*UF.S.				
Operating Temp	erature, Humidity		0~40°C, 20-90%	RH		
Temperatur	e Coefficient		100ppm/℃(Typic	al)		

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

## High Power Bidirectional DC Electronic Load ANEL(F) Series



### Product Introduction

The ANEL(F) Series Regenerative DC Electronic Load 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 support the continuous energy feedback in the full power range. It simultaneously possesses the capability of bidirectional operation in both positive and negative directions, enabling seamless energy transfer. With dual-loop control technology, it achieves ultra-high control precision, rapid response to customer load changes, ensuring equipment test stability and data precision. With its wide range of voltage and current adaptability capabilities and rich 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.

### Features

- Source load integrated machine, with a pure load mode.
- Supports CV, CC, CP, and CR working modes.
- Voltage 0.05%FS, current 0.1%FS, and power 0.2%FS.
- Minimum current 0A and minimum power 0KW.
- Response time≤3ms; switching time≤4ms.
- Power factor≥0.99, current harmonic distortion≤3%.
- Provides 900-step programming function with a minimum programming time of 1mS.
- 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.
- Supports 1st, 2nd, and 3rd grade battery models and internal resistance models, and allows for import and export of data in CSV and mat formats.
- Provides multi-unit parallel mode, supports parallel output of multiple loads of the same model.
- Equipped with CAN, RS232/RS485, LAN and other communication interfaces.

### Specification and model

Product series	Product model	Rated current	Rated power	Peak current	Peak power	Voltage range	Overall dimensions/mm (W×D×H)
800V Series	ANEL800-800-100(F)	800A	100kW	1000A	125KW	12V-800V	1500×1000×2100
	ANEL800-1000-160(F)	1000A	160kW	1250A	200KW	12V-800V	2000×1000×2100
	ANEL800-1000-200(F)	1000A	200kW	1250A	250KW	12V-800V	2000×1000×2100
	ANEL800-1000-250(F)	1000A	250kW	1250A	312KW	12V-800V	2000×1000×2100
	ANEL800-1000-300(F)	1000A	300kW	1250A	375KW	12V-800V	2000×1200×2100
	ANEL800-1000-400(F)	1000A	400kW	1250A	500KW	12V-800V	2000×1200×2200
	ANEL800-1000-500(F)	1000A	500kW	1250A	625KW	12V-800V	2000×1200×2200
1000V Series	ANEL1000-600-100(F)	600A	100kW	750A	125KW	12V-1000V	1500×1000×2100
	ANEL1000-1000-160(F)	1000A	160kW	1250A	200KW	12V-1000V	2000×1000×2100
	ANEL1000-1000-200(F)	1000A	200kW	1250A	250KW	12V-1000V	2000×1000×2100
	ANEL1000-1000-250(F)	1000A	250kW	1250A	312KW	12V-1000V	2000×1000×2100
	ANEL1000-1000-300(F)	1000A	300kW	1250A	375KW	12V-1000V	2000×1200×2100
	ANEL1000-1000-400(F)	1000A	400kW	1250A	500KW	12V-1000V	2000×1200×2200
	ANEL1000-1000-500(F)	1000A	500kW	1250A	625KW	12V-1000V	2000×1200×2200

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

Product	name	High Power Bidirectional DC Electronic Load				
Work	mode	CV CC CP CR				
Energy fe	eedback	Grid-following feedback				
Isolation	function	Electrical isolation between input and output				
	Setting range	12V-Vmax				
CV mode	Resolution	0.1V				
	Accuracy	0.05%FS				
	Setting range	OA-Imax				
CC mode	Resolution	0.1A				
	Accuracy	0.1%FS				
	Setting range	0kW-Pmax				
CP mode	Resolution	0.01kW				
	Accuracy	0.2%FS				
	Setting range	0Ω-1,000Ω				
CR mode	Resolution	0.1Ω				
	Accuracy	0.5%FS				
Dynamic	Recovery time	≤3ms (10%-90% load switching)				
naracteristics	Rise time	≤3ms				
im antationna	Switching time	s4ms				

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

AC characteristic	Mode	3-phase 4-wire+PE			
	Voltage	323V-347V			
	Frequency	45Hz-65Hz (Follows grid frequency)			
	Phase	Follows grid phase			
	Power factor	≥0,99			
	Total harmonic content	≤3% (tested under conditions of standard AC power input with distortion within 1.5%)			
	Overall efficiency	≥0.94			
	Feedback performance	Full power continuous feedback			
	Output programming	It allows programmable output voltage waveforms, including voltage and current slopes, steps, cyclic control, and jump control.			
	Emergency stop	It has an emergency stop button and built-in output contactor for quickly and completely disconnecting from the load equipment.			
	Battery simulation	It can simulate five types of batteries: lithium ternary, lithium manganese, lithium cobalt, lithium iron phosphate, lead-acid, and nickel-metal hydride.  It supports customizing battery cell capacity, series/parallel quantity,  State of Charge (SOC), and temperature parameters.			
	Ramp-up function	It provides voltage, current, and power programming ramp-up			
	Multi-mode function	It supports various load modes, including CV, CC, CR, CP, CV-CC, CC-CP, CP-CR, CV-CC-CR, etc.			
	AC protection	AC undervoltage, overvoltage, and phase loss protection			
Protection	Built-in protection	Bus overvoltage protection, power module overheating protection,  power module overcurrent protection, and power module short circuit protection			
functions	Protection setting	Allow setting protection parameters and enable for OVP, LVP, OCP, LCP and OPP protection			
	Limit setting	It supports setting upper and lower limits for voltage, current, and power parameters			
Display and	Display mode	LCD			
operation	Operation mode	Number key, knob and touch screen three-in-one			
design	Voltage	0.001V			
Display	Current	0.001A			
resolution	Power	0.001kW			
NAME OF TAXABLE PARTY.	Serial interface	Standard RS232/RS485 (select one)			
ommunication —	CAN interface	Supports CAN2.0 protocol, with a communication data update frequency ≥ 50Hz			
interface	Ethernet	Supports the Ethernet communications			
Ana	log interface	Supports external emergency stop switch quantity signal control			
	Insulation resistance	≥2MΩ (tested at 1,000V insulation voltage)			
1292-011	Withstand voltage	2,000VDC 5mAmin			
performance working environment	Grounding resistance	≤100mΩ			
	Working temperature	0℃-40℃			
	Working humidity	20-90%RH (no condensation)			
	Altitude	≤2,000m			
	Storage temperature	-10 ℃-70 ℃			
	Noise	s70dB			
Coo	ling method	Temperature-controlled air cooling, It has a built-in temperature-controlled variable speed fan.			
Prot	ection level	IP21			

Electronic Load \



AC/DC Electronic Load

AN29(F) Series

### Product Introduction

AN29(F) Series AC/DC electronic load has flexible parallel and online functions. When multiple units are connected in parallel, they can expand the current and power, meeting testing requirements of high-power single-phase power supplies. When three-phase online, a three-phase load is formed to meet the three-phase power testing requirements. Multiple units can also be connected in parallel to form a high-power three-phase electronic load.

### Features

CE

Power Capacity: 1400W~ 8400W

Working voltage is low to 2V, and up to 350Vrms

Current range: 10Arms~60Arms, peak current: 45A~ 270A

Frequency range: 44~ 1000Hz, DC

Peak factor: 1.4 ~ 5.0000

Adjustable power factor, setting range 0-1.0

3 units in parallel to realize 3 phase load

Work mode: Constant current CC, constant resistance CR, constant power CP

Current shift: current shift can be adjusted under testing

DC: Static loading, dynamic loading, 40 programming steps

AC: Waveform simulation, sine, 3-15 harmonic, phase gate, crest factor

Upper/lower limits adjustment, over limit alarming(GO/NG)

Remote voltage detect sense port, used for precise

measurement, eliminate wires voltage drop

Protection function: Over voltage, over current, over power, over heat, DC reversed polarity

Measurement parameter: U, I, P, F and PF

### Order information and extended functions

AN29201(F): AC/DC Electronic Load 260V/10A/1400W
AN29202(F): AC/DC Electronic Load 260V/20A/2800W
AN29203(F): AC/DC Electronic Load 260V/30A/4200W

AN29204(F): AC/DC Electronic Load 260V/40A/5600W

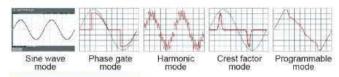
AN29205(F): AC/DC Electronic Load 260V/50A/7000W

AN29206(F): AC/DC Electronic Load 260V/60A/8400W

RS485, GPIB optional

### **Production Function**

#### Waveform simulation

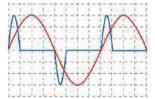


Exceeding & Trustworthy

### Test Function

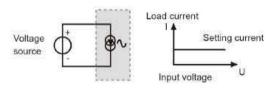
#### Power factor test

Simulate inductive and capacitive load, PF is from 0 to 1. If load current phase shift and PF are both need to set, PF can be set on front panel easily, do not need wire connection.



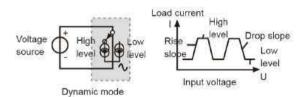
#### Regulation test

Under CC mode, load current is just changing setting value, not with DUT output voltage. Please refer to the characteristic curve.



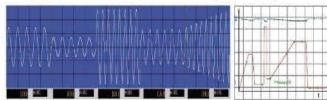
### Dynamic performance test

Dynamic mode is switching between 2 levels in cycle, please refer to the characteristic curve. Dynamic current rising/dropping slope can be adjusted separately.



### Programmable steps

4 groups, 10 steps/group. 4 groups can be parallel into 40 steps, and also can be divided into separated steps.



Programmable steps loading waveform

Programmable DC loading waveform

### Connect in parallel and series

3 units in parallel to realize 3 phase load.

### Specifications

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	Model	AN29201(F)	AN29202(F)	AN29203(F)	AN29204(F)	AN29205(F)	AN29206(F)		
	Power	1400W	2800W	4200W	5600W	7000W	8400W		
	Current	0-10Arms(45Apeak)	0-20Arms(90Apeak)	0-30Arms(135Apeak)	0-40Arms(180Apeak)	0-50Arms(225Apeak)	0-60Arms(270Apea		
	Voltage		2V- 260Vrm	s (360 Vpeak), custon	nizable 2V-350Vrms (	500Vpeak)			
	Frequescy			44 - 1000	OHz, DC				
AC part: Constant Current Mode	Cotting Dongs	0.2~10Arms,	0.2~20Arms,	0.2~30Arms,	0.4~40Arms,	0.4~50Arms,	0.4~60Arms,		
	Setting Range	programmable	programmable	programmable	programmable	programmable	programmable		
	Accuracy	DC/50/60/400Hz: 0.1% + 0.2% range							
	Resolution	2mA	5mA	5mA	7mA	9mA	10mA		
Constant Resistance Mode	2012/02/02/02/02/02	1Ω~1200Ω,	1Ω~600Ω,	1Ω~400Ω,	1Ω~300Ω,	1Ω~240Ω,	1Ω~200Ω.		
	Setting Range	programmable	programmable	programmable	programmable	programmable	programmable		
		The second secon					Chicago Da Callando Control		
	Accuracy	DC/50/60/400Hz: Min. resistance ~ 1/2 Max. resistance: ± (1.5% setting value + 0.5% range); greater than 1/2 Max. resistance - Max. resistance: + (3.5% setting value+0.5% range)							
WIOGE	Description		Past .	-	- 10	process and a second of			
	Resolution	0.2Ω	0.1Ω	0.067Ω	0.05Ω	0.04Ω	0.04Ω		
21 W 3828	Setting Range	10W~1400W.	10W~2800W,	10W~4200WΩ.	10W~5600W,	10W~7000W,	10W~8400W,		
Constant Power		programmable	programmable	programmable	programmable	programmable	programmable		
Mode	Accuracy			DC/50/60/400Hz: 0	0.2% + 0.3% range				
	Resolution	0.25W	0.5W	0.75W	1W	1.25W	1.5W		
	Peak Factor			1.4-E.0 pro	grammabla				
Peak Factor	Setting Range	1.4~5.0, programmable							
Mode	Phase Shift Angle	000 0000							
	Setting Range	-90°~+90°, programmable							
Gate Trigge	Turn On Angle	0.359							
Mode	Turn off Angle	0-360°							
Mode	Frequency	100 (ST 100 ST							
Harmonic Mode	Setting Range	1-15 0-1							
namonic wode					Water Commencer				
	Resolution		V and the second	0.1	1000				
	Measurement Range	0~1 lead or lag	0~1 lead or lag	0~1 lead or lag	0~1 lead or lag	0~1 lead or lag	0~1 lead or lag		
Power Factor	Measurement Accuracy	1% range	1% range	1% range	1% range	1% range	1% range		
	Resolution			0.0	01				
	Voltage Working Range			2V- 260V , custor	mizable 2V-350V				
	Current Setting Range	0.2A~10A	0.2A~20A	0.2A~30A	0.4A~40A	0.4A~50A	0.4A~60A		
	Minimum Operating								
7. M. M. T. T. T. T. T. T. T. T. T. T. T. T. T.	Voltage	2V							
DC part	Rise Time	1ms							
	Operating Mode	Constant current, constant resistance, constant power, dynamic							
	Short Circuit								
	Current Simulation	Use constant resistance mode							
	Voltage Measurement	200 CONTROL LA COLLABORATION CONTROL C							
		2V~260V, customizable 2V~350V							
	Range								
	Voltage Measurement	DC/50/60/400Hz: 0.1% + 0.1% range							
	Accuracy								
Measurement	Voltage Resolution		ı	100	mV				
part	Current Measurement	0~10.00A	0~20.00A	0~30.00A	0~40.00A	0~50.00A	0~60.00A		
	Range	0.10.007	0 20.000	0.00.00A	- TO.OOA	0.00.00A	0.00.00		
	Current Measurement	DO/E0/20/400H=-0.49/40.29/							
	Accuracy	DC/50/60/400Hz: 0.1%+0.2% range							
	Current Resolution	2.0mA	4.0mA	6.0mA	8.0mA	10.0mA	12.0mA		
	Other Parameters	50575554045	Active power (W), app	parent power (VA), rea	ctive power (VAR), po	ower factor, frequency	017/01/01/00		
Others	The state of the s	"Overcurrent:	"Overcurrent:	"Overcurrent:	"Overcurrent:	"Overcurrent:	"Overcurrent:		
		10.5Arms;	21Arms;	31.5Arms;	42Arms;	52.5Arms;	63Arms;		
		Overvoltage:		Overvoltage:		Overvoltage:	Overvoltage:		
	Destantion	and Calculation	Overvoltage:	The state of the s	Overvoltage:		A DOUBLE CONTRACTOR		
	Protection	273Vrms;	273Vrms;	367Vrms;	273Vrms;	273Vrms;	273Vrms;		
		Over power:	Over power:	Over power:	Over power:	Over power:	Over power:		
		1470W;	2940W;	4410W;	2880W;	7350W;	8820W;		
		Over temperature"	Over temperature"	Over temperature*	Over temperature"	Over temperature"	Over temperature		
	Control Interface		St	andard: RS-232, USB	; Optional: Ethernet p	ort			
		115/230 Vac ± 10%							
	Operating Voltage			110/200 4	40 10 10				
	Operating Voltage Dimension			110/200 \$	40.2.1010				
	S KIN U		440×222×465	110/200 7	60 a. 14 W	440×354×465			