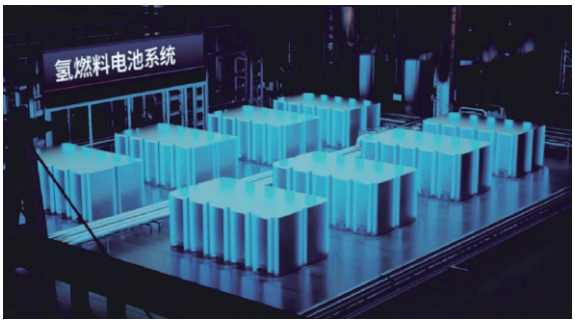
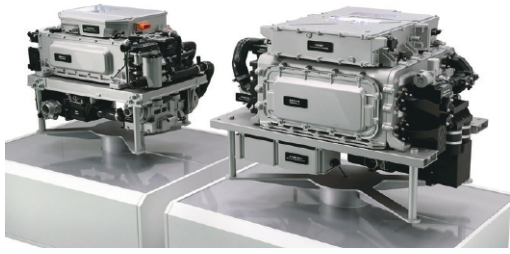
AC&DC Power Source

HY-BPC Series

Bipolar Current Source

Military Quality Power Supply Expert

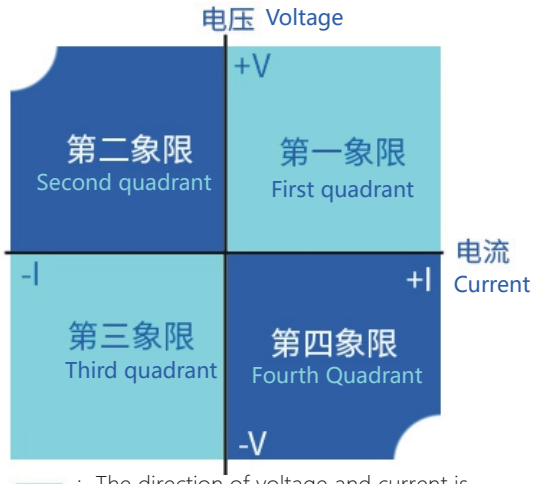




HY-BPC Series Bipolar Current Source

High precision, high power density

HY-BPC series bipolar constant current power supply, With current amplifier function, it can be used in conjunction with electrochemical workstations as Current expansion purpose, with a maximum expansion current of ± 1000A, used for high current low resistance systems such as fuel cells and battery cells I-V curve test, AC impedance test。 The power supply adopts new linear technology, with ultra-low distortion rate and ultra-low power consumption The advantage of external interference is achieved through four quadrant action, which not only provides power as a power source but also absorbs power as aLoad testing method。



: The direction of voltage and current is the same (source)

: The direction of voltage and current is opposite (sink)

Four quadrant action concept diagram

Product Features

- Open circuit voltage: ±2.5V/±5V/±10V/±20V/±30V/±40V/±60V/±80V (optional)
- Output current: 0~±1000A (optional)
- Output capacity: 200VA~10kVA
- Output wide channel: DC~100Hz、DC~500Hz、DC~1kHzDC~5kHz) 、DC~10kHz (-3dB) (optional)
- Adopting new linear technology, with the advantages of ultra-low ripple and ultra-low external interference
- High speed response speed, current response time ≤ 10 μ S

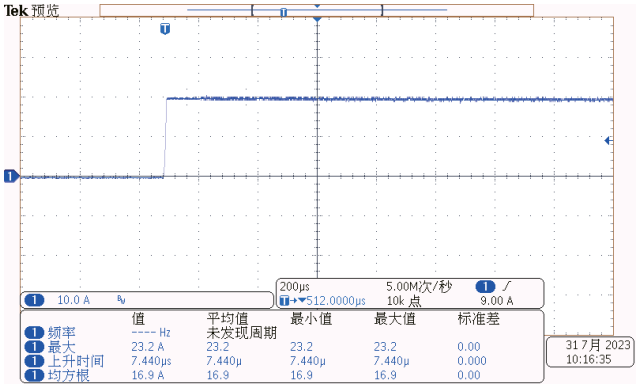
Application Area

- Electrochemical impedance analysis of fuel cells
- Electrochemical current expansion module
- High frequency pulse test for soft package
- Fuel cell
- Battery
- Lead acid battery
- Supercapacitor testing

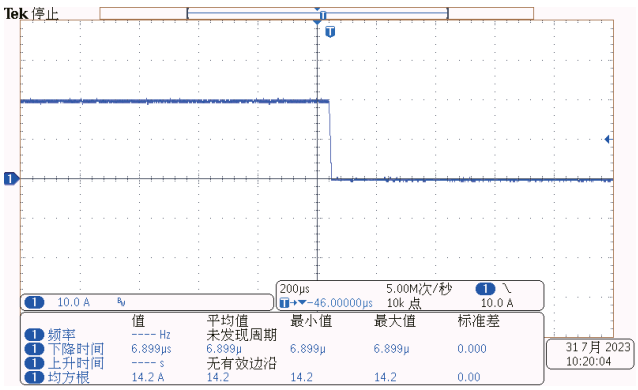
Electrochemical Impedance Spectroscopy

Electrochemical Impedance Spectroscopy,referred to as EIS, Has always been an important means in the process of hydrogen energy development One of them. By utilizing EIS, combined with circuit fitting or relaxation time analysis, researchers can analyze the polarization phenomenon in batteries, thereby evaluating the corresponding materials, structures, or operations Compare and optimize the conditions, etc. EIS generally uses a sinusoidal current with an effective value of 5% -10% as a disturbance to collect battery current and voltage information, thus dividing Analyze impedance, phase difference, and other information, and finally draw Nyquist or Bode diagrams for further processing. However, during the impedance testing process, the load or electrical The impact of sources on the impedance testing process has always been overlooked by researchers. This article focuses on the effective area of 5cm ² Electrolytic water single cell is the test object, and based on measured data, Analyzed the impact of the power circuit during its impedance testing process. Because 5cm ² The single cell current of electrolytic water can be directly loaded on the electrochemical workstation and power amplifier Within the current range and capable of studying single cell behavior under high electrical density conditions。

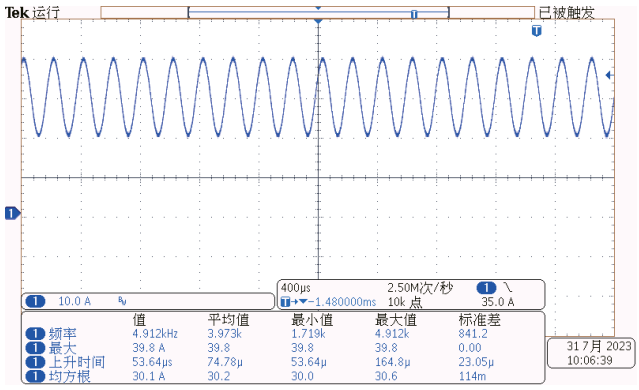
HY-BPC Series Measured Waveform



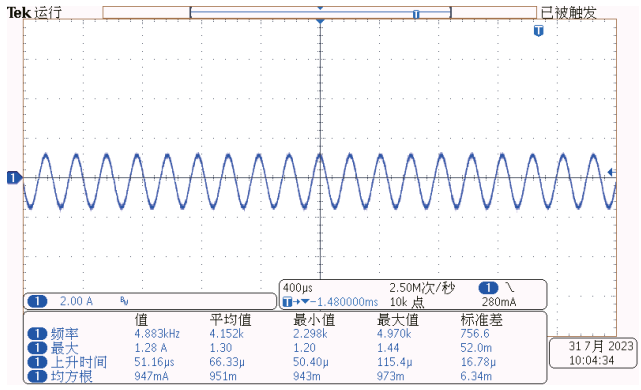
Measured current rise time ≤10µs



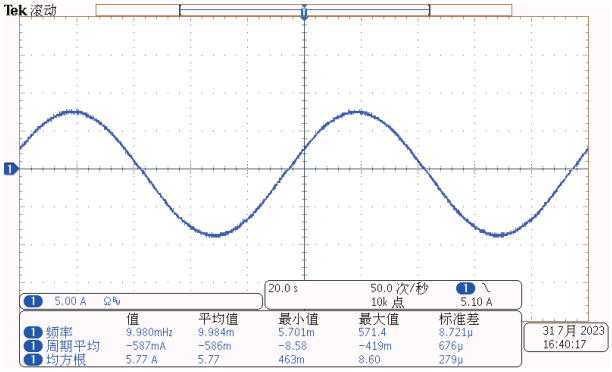
Measured current drop time ≤10µs



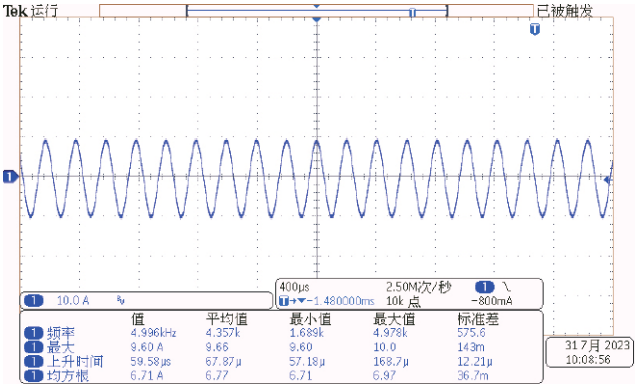
DC+AC Mode waveform



1A Ripple waveform of small current



0.01Hz Frequency bandwidth waveform



5kHz Frequency bandwidth waveform

HY-BPC Series Product Selection Table

Product Selection Instructions

Product Model Naming Rules

Product Series	Output voltage		Output current		Frequency
HY-BPC	2.5	-	500	-	100

Model: HY-BPC 2.5-500-100
The information of this model is: open circuit voltage is 2.5V, output current is 0~± 500A, and output frequency is 100Hz
Choose User Defined Features

Communication protocol

Modbus
SCPI

Standard communication interface

RS-485
RS-232
Digital I/O

Purchasing function

- HR High resolution/precision
- T1 Operation temperature -10℃ to 45℃
- T2 Operation temperature -20℃ to 45℃
- CF User defined functions (please specify when ordering)
- MR Measurement report (issued by a third party certified by CNAS)

Optional communication interface
(Users can install it themselves)

- LAN : Ethernet communication interface
- GPIB : GPIB communication interface
- IA : Analog programming and monitoring interface (isolated type)

*All technical indicators can only be guaranteed when the equipment operates continuously for more than 30 minutes at the specified operating temperature.

HY-BPC Series Model Table

Special specifications beyond the scope of the selection table, accept customization。
broadband > 1kHz时，-3dB。

2.5V Series Power Selection

Models	Output voltage	Output current	Output capacity	Frequency
HY-BPC 2.5-50	2.5V	0~±50A	125VA	标准: DC~100Hz DC~500Hz DC~1kHz 选购: DC~5kHz DC~10kHz
HY-BPC 2.5-100	2.5V	0~±100A	250VA	
HY-BPC 2.5-150	2.5V	0~±150A	375VA	
HY-BPC 2.5-200	2.5V	0~±200A	500VA	
HY-BPC 2.5-250	2.5V	0~±250A	625VA	
HY-BPC 2.5-300	2.5V	0~±300A	750VA	
HY-BPC 2.5-400	2.5V	0~±400A	1000VA	
HY-BPC 2.5-500	2.5V	0~±500A	1250VA	

5V Series Power Selection

Models	Output voltage	Output current	Output capacity	Frequency
HY-BPC 5-50	5V	0~±50A	250VA	标准: DC~100Hz DC~500Hz DC~1kHz 选购: DC~5kHz DC~10kHz
HY-BPC 5-100	5V	0~±100A	500VA	
HY-BPC 5-150	5V	0~±150A	750VA	
HY-BPC 5-200	5V	0~±200A	1000VA	
HY-BPC 5-250	5V	0~±250A	1250VA	
HY-BPC 5-300	5V	0~±300A	1500VA	
HY-BPC 5-400	5V	0~±400A	2000VA	
HY-BPC 5-500	5V	0~±500A	2500VA	

HY-BPC Series Product Selection Table

10V Series Power Selection

Models	Output voltage	Output current	Output capacity	Frequency
HY-BPC 10-50	10V	0~±50A	500VA	标准: DC~100Hz DC~500Hz DC~1kHz 选购: DC~5kHz DC~10kHz
HY-BPC 10-100	10V	0~±100A	1000VA	
HY-BPC 10-150	10V	0~±150A	1500VA	
HY-BPC 10-200	10V	0~±200A	2000VA	
HY-BPC 10-250	10V	0~±250A	2500VA	
HY-BPC 10-300	10V	0~±300A	3000VA	
HY-BPC 10-400	10V	0~±400A	4000VA	
HY-BPC 10-500	10V	0~±500A	5000VA	

20V Series Power Selection

Models	Output voltage	Output current	Output capacity	Frequency
HY-BPC 20-50	20V	0~±50A	1000VA	标准: DC~100Hz DC~500Hz DC~1kHz 选购: DC~5kHz DC~10kHz
HY-BPC 20-100	20V	0~±100A	2000VA	
HY-BPC 20-150	20V	0~±150A	3000VA	
HY-BPC 20-200	20V	0~±200A	4000VA	
HY-BPC 20-250	20V	0~±250A	5000VA	
HY-BPC 20-300	20V	0~±300A	6000VA	
HY-BPC 20-400	20V	0~±400A	8000VA	
HY-BPC 20-500	20V	0~±500A	10000VA	

30V Series Power Selection

Models	Output voltage	Output current	Output capacity	Frequency
HY-BPC 30-50	30V	0~±50A	1500VA	标准: DC~100Hz DC~500Hz DC~1kHz 选购: DC~5kHz DC~10kHz
HY-BPC 30-100	30V	0~±100A	3000VA	
HY-BPC 30-150	30V	0~±150A	4500VA	
HY-BPC 30-200	30V	0~±200A	6000VA	
HY-BPC 30-250	30V	0~±250A	7500VA	
HY-BPC 30-300	30V	0~±300A	9000VA	
HY-BPC 30-400	30V	0~±400A	12000VA	
HY-BPC 30-500	30V	0~±500A	15000VA	

40V Series Power Selection

Models	Output voltage	Output current	Output capacity	Frequency
HY-BPC 40-50	40V	0~±50A	2000VA	标准: DC~100Hz DC~500Hz DC~1kHz 选购: DC~5kHz DC~10kHz
HY-BPC 40-100	40V	0~±100A	4000VA	
HY-BPC 40-150	40V	0~±150A	6000VA	
HY-BPC 40-200	40V	0~±200A	8000VA	
HY-BPC 40-250	40V	0~±250A	10000VA	
HY-BPC 40-300	40V	0~±300A	12000VA	
HY-BPC 40-400	40V	0~±400A	16000VA	
HY-BPC 40-500	40V	0~±500A	20000VA	

Technical Parameter

AC Output

Working mode	constant current mode（CC Mode）
Output capacity	constant current mode 200VA-10kVA
Output current	0~±500A
Output current range can be set	0.5%-100%
Open circuit voltage	L-N 2.5V/5V/10V/20V/30V/40V（Higher voltage can be customized）
Frequency	standard：DC~100Hz，DC~ 500Hz，DC~ 1kHz　choose：DC~5kHz，DC~ 10kHz
Frequency stabilization accuracy	100ppm
Lnput adjustment rate	≤0.5%F.S.（Note: F S. Meaning full scale）
Waveform distortion(THD)	Sine wave, I-THD ≤ 1%, resistive test
	Distortion rate varies among different current models

HY-BPC Series Technical Paramete

Programming And Read Back Accuracy & Resolution

Current output programming accuracy	0.5%F.S.
Current setting resolution	0.01A（≤600A），0.1A（＞600A）
Frequency setting resolution	0.01Hz
Current output readback accuracy	0.5%F.S.
Current read back resolution	0.01A（≤600A），0.1A（＞600A）

Protection Function

OVP Overvoltage protection setting range	10 - 110%，Immediate shutdown of output beyond limit
OCP Overcurrent protection setting range	0 - 105%，Immediate shutdown of output beyond limit
OTP Over temperature protection	Immediate shutdown of output beyond limit

Ambient Condition

Environment	Indoor use; Installation overvoltage level: II; Pollution level: P2; Class II equipment
Ambient Temperature	0℃ to 45℃； choose -10℃ to 45℃，-20℃ to 45℃
Storage environment temperature	-20℃ to 65℃
Working environment humidity	20%-90%RH，No condensation
Storage environment humidity	10%-95%RH，No condensation
Altitude	Above an altitude of 2000 meters, the power decreases by 2% for every 100 meters increase, or the maximum working environment temperature decreases by 1 ℃ for every 100 meters;When not in operation, it can reach an altitude of 12000 meters
Burial	Forced air cooling, intelligent variable speed fan, both sides/front air inlet, rear air outlet
Noise	≤ 65dB(A)，Weighted measurement using 1m

Control Panel

Monitor	7-inch, LCD display, touch screen
Display item	Current (set value&measured value), voltage measured value, working time, cumulative working time, current time and date
Control function	Number button input, multi-level shuttle knob adjustment (outer circle coarse adjustment/inner circle fine adjustment) Output ON/OFF switch, Lock keyboard and touch lock, Reset restart Status indicator light（Shift / Local / Remote / Alarm / Lock / Output）

HY-BPC Series Technical Paramete

Communication Interface

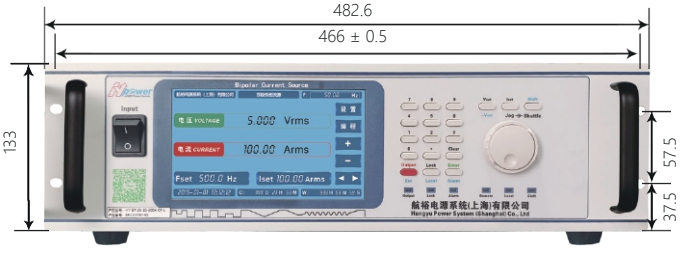
Standard configuration	RS-485 & RS-232
Choose	LAN、CAN、GPIB, IA Analog programming and monitoring interface (isolated type)

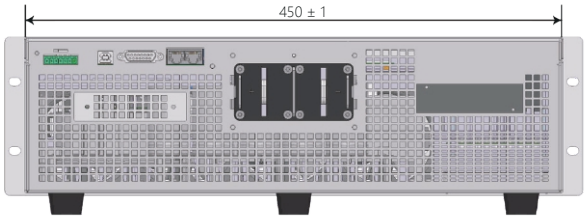
Appearance Color&Size

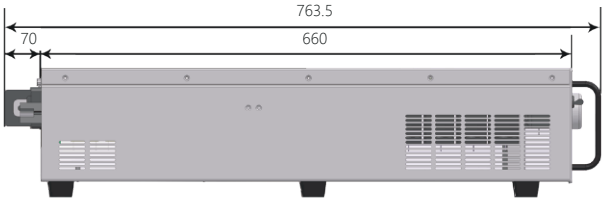
Colour	RAL 7035
Size	482.6(W) * 660 (D) * 133 (H) mm, 3U 430 (W) * 560 (D) * 178 (H) mm, 4U 440 (W) * 600 (D) * 445 (H) mm, 10U The size can be changed according to user needs

Dimension

3U 482.6(W) * 660(D) * 133(H) mm

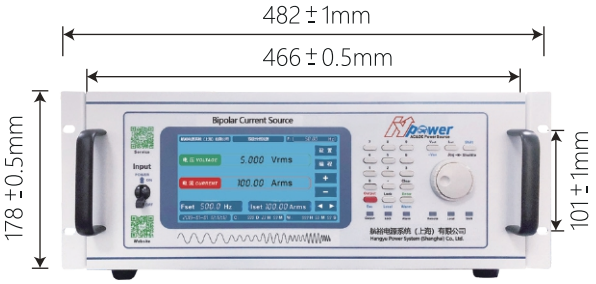


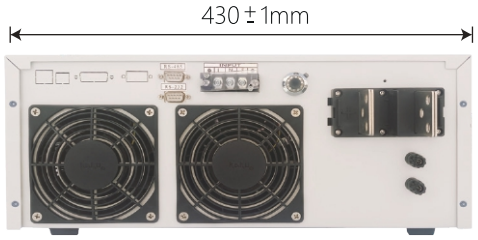


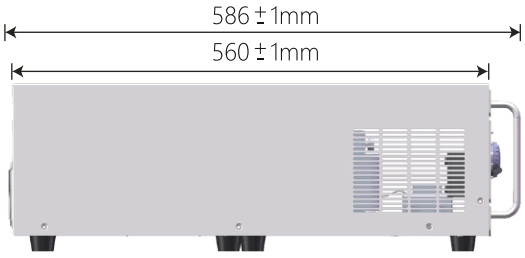


HY-BPC Series Display And Size

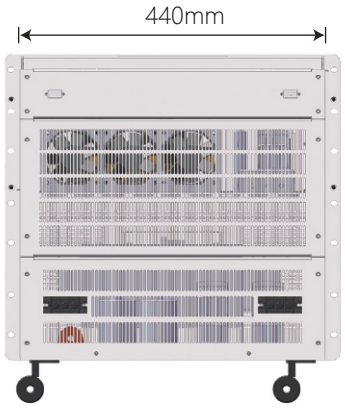
4U 430(W)*560(D)*178(H)mm

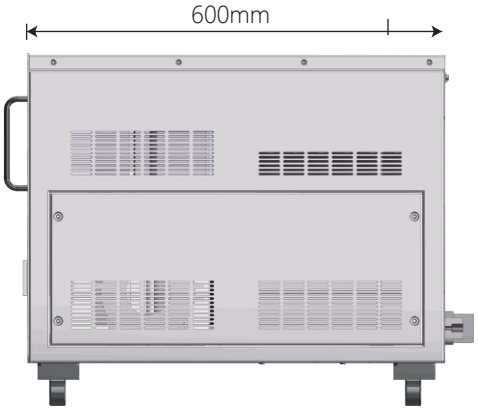






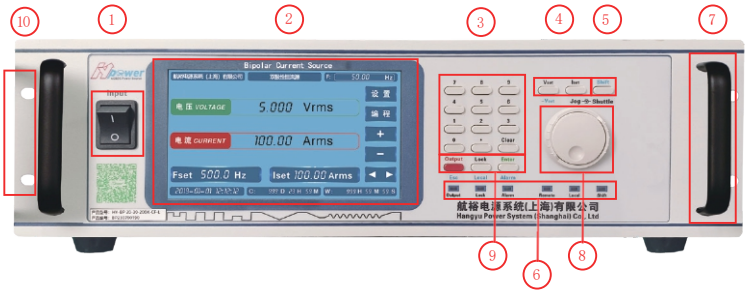
10U 440(W)*600(D)*445(H)mm



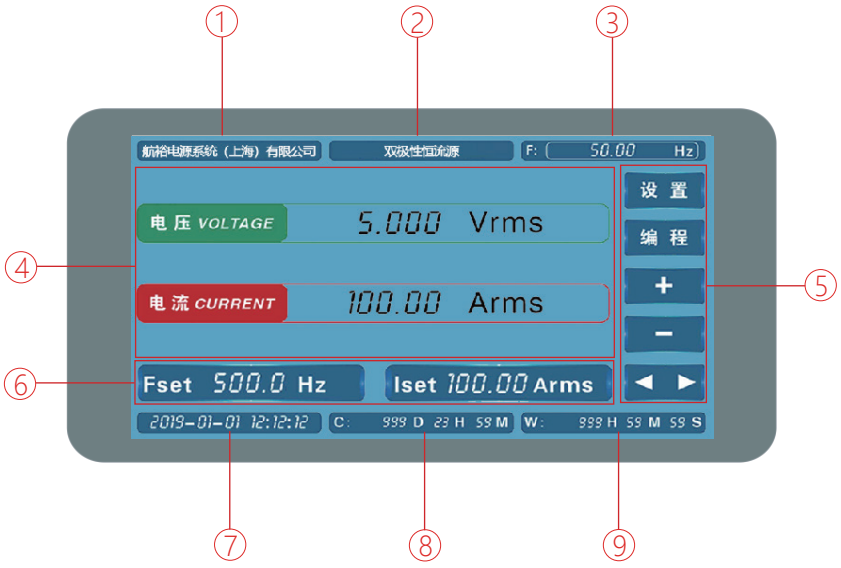


Control Panel

1、 Power input circuit breaker;
2、 7-inch LCD display window display: current setting value Voltage and current measurement values, function settings menu;
3、 Function buttons: used for required numerical input and parameter settings;
4、 Voltage/current setting key
5、 Shift Function reuse key
6、 Status
7、 Chassis handle
8、 Multistage shuttle adjustment knob, with the inner circle adjusted one word at a time, and the outer circle divided into ± 8 adjustable segments;
9、 Lock lock, Enter confirmation, Esc exit Local, Reset restart/Alarm alarm, Output ON/OFF switch
10、 19 inch standard rack mounting holes



Display Interface



① Manufacturer's name
② Product name
③ Product frequency
④ Voltage and current display area
⑤ Function setting area
⑥ Frequency/voltage setting value
⑦ TIME
⑧ Accumulated running time
⑨ This run time

Cooperative Clients (Partial)

Power Semiconductor Customers

- Changchun Guoke
- Electrical industry
- China Resources Microelectronics
- Shanghai Huinengtai Semiconductor
- Yuexin Technology
- Wishing to create technology
- Group core microelectronics
- Hangzhou Zhongsi
- Feishide
- Suzhou Lianxun Instrument
- Weiyujia Semiconductor
- Shanghai Zhanxin Semiconductor
- Chengxin Technology
- Zhuoxinda Technology

Enterprises In the Field Of Automotive Electronics

- China Automotive Research and Development
- Heavy Industry Automotive Research and Development
- BMW Brilliance
- Red Banner
- SAIC Group
- SAIC Volkswagen
- GEELY
- tesla
- Weilai
- Xiaomi Automobile
- BYD
- value
- polary
- Lantu Automobile
- Inovance
- HAOMO.AI
- MKLtech
- Shanghai Tongmin Vehicle
- Ningde Era
- Human Horizons
- Hezhong New Energy

High Tech R&D Enterprises

- Huawei
- FARATRONIC
- Panasonic
- EPCOS
- TYCO
- Weidmuller
- Honeywell
- Nader
- SIEMENS
- ABB
- Schneider
- NOSRK
- HONGFA
- EOPLE
- FLUKE
- Philips
- Gree
- Guilin Rubber Machinery Factory
- CASCO
- CRRC
- US PI
- HILTI
- BOSCH
- linde
- NARI-TECHNOLOGY
- Shanghai Electric
- New Thunder Energy
- Silan

Aerospace And National Defense Military Industry Research Institute

china aerospace | CASIC | aviation industry | China Aerospace | CETC | CSSC | CSIC

CASC 800 institute (Shanghai Aerospace Precision Machinery Research Institute)
CASC 801 institute (Shanghai Institute of Space Propulsion)
CASC 803 institute (Shanghai Institute of Space Propulsion)
CASC 804 institute (Shanghai Aerospace Electronic Communication Equipment Research Institute)
CASC 805 institute (Shanghai Aerospace Systems Engineering Research Institute)
CASC 808 institute (Shanghai Institute of Precision Metrology and Testing)
CASC 811 institute (Shanghai Space Power Research Institute)
CASC 812 institute (Shanghai Satellite Equipment Research Institute)
CASC 502 institute (Beijing Institute of Control Engineering)
CASC 510 institute (Lanzhou Institute of Space Technology Physics)
CASIC 206 institute (Beijing Institute of Mechanical Equipment)
CASIC 307 factory (Aerosun Corporation)
CASIC 33 institute (Institute 33 of Aerospace Science and Industry Third Institute)
CASIC 3651 factory (Guizhou Aerospace Linquan Motor Co., Ltd)

AVIC 603 institute (AVIC Xi'an Aircraft Design and Research Institute)
AVIC 613 institute (China Aviation Industry Group Luoyang Electro Optic Equipment Research Institute)
AVIC 615 institute (China Aviation Industry Group Luoyang Electro Optic Equipment Research Institute)
AVIC 618 institute (Xi'an Automatic Flight Research Institute of China Radio Aviation Research Institute)
AVIC 631 institute (AVIC Aerospace Computing Technology Research Institute)
AVIC 105 factory (Tianjin Aviation Electromechanical Co., Ltd)
AVIC 115 factory (Shaanxi Aviation Electric Co., Ltd)
AVIC 118 factory (Shanghai Aviation Electrical Appliances Co., Ltd)
AVIC 181 factory (Wuhan Aviation Instrument Co., Ltd)
AVIC 607 institute (China Leihua Electronic Technology Research Institute)
AVIC 304 institute (Beijing Great Wall Metrology and Testing Technology Research Institute)
AECC 606 institute (Shenyang Engine Research Institute)

CETC 14 institute (Nanjing Institute of Electronic Technology)
CETC 21 institute (Shanghai Micromotor Research Institute)
CETC 23 institute (Shanghai Transmission Line Research Institute)
CETC 36 institute (Jiangnan Electronic Communication Research Institute)
CETC 38 institute (East China Electronic Engineering Research Institute)
CETC 50 institute (Shanghai Microwave Technology Research Institute)
CETC 51 institute (Shanghai Microwave Equipment Research Institute)
CETC 54 institute (Shijiazhuang Communication Measurement and Control Technology Research Institute)
CETC 55 institute (Nanjing Institute of Electronic Devices)
CSIC 707 institute (Tianjin Institute of Navigation Instruments)
CSIC 7107 institute (Shaanxi Aerospace Navigation Equipment Co., Ltd)
CSIC 719 institute (Wuhan Second Ship Design and Research Institute)
CSIC 704 institute (Shanghai Shipbuilding Equipment Research Institute)
CSIC 726 institute (Shanghai Institute of Ship Electronic Equipment)
Jiangnan Shipbuilding (Group) Co., Ltd
Nanjing Panda Electronics Co., Ltd
State owned 741 Factory (Nanjing East China Electronics Group Co., Ltd.)

Scientific Research & Third Party Quality Inspection Institutions

Institute of Physical and Chemical Technology (Beijing)
Urban Environment Research Institute (Xiamen)
Institute of Electrical Engineering (Beijing)
Institute of Applied Physics (Shanghai)

中国科学院 CHINESE ACADEMY OF SCIENCES

中国工程物理研究院 CHINA ACADEMY OF ENGINEERING PHYSICS

中国地震局 地壳应力研究所 The Institute of Crustal Dynamics

福建省产品质量检验研究院 FUJIAN INSPECTION AND RESEARCH INSTITUTE FOR PRODUCT QUALITY

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国家电器产品质量监督检验中心

长春市产品质量监督检验院 Changchun product quality supervision and inspection institute

西安市产品质量监督检验院 Xi'an Supervision & Inspection Institute of Product Quality

杭州市质量技术监督检测院 Hangzhou Technical Supervision and Procuratorate

Cooperative Clients

The Chinese People's Liberation Army

South China Sea Fleet

East China Sea Fleet

North Sea Fleet

Navy Factory 701/702

4724 Factory (Shanghai Haiying Machinery Factory)

95861 Unit (Air First Base)

The 5720th Factory of the People's Liberation Army of China

Commercial Aviation

Commercial Aircraft Corporation of China Limited

Rockwell Collins

Guangzhou Aircraft Maintenance Engineering Co., Ltd

Beijing Aircraft Maintenance Engineering Co., Ltd

Military Academies And Local Universities

national university of defense technology

Aerospace Engineering University

Army Engineering University

air force engineering university

naval university of engineering

Dalian Naval Academy

Naval Aviation University

Beihang University

Beijing Institute of Technology

Harbin Institute of Technology

Harbin Engineering University

Nanjing University of Aeronautics and Astronautics

Nanjing University of Science and Technology

Northwestern Polytechnical University

University of Science and Technology of China

Tsinghua University

Peking University

Shanghai Jiaotong University

Zhejiang University

Tianjin University

Huazhong University of Science and Technology

University of Electronic Science and technology

Shanghai University

Beijing University of Technology

Shanghai Maritime University

Dalian University of Technology

Dalian Maritime University

South China University of Technology

Huazhong University of Science and Technology

Xi'an Electronic Technology

Xi'an Jiaotong University

Sichuan University

donghua university

north china institute of aerospace engineering

Fudan University

Xiamen University

north china electric power university

Changchun Institute of Technology

xiangtan university

zhejiang university of technology

Xi'an University of technology

University of Electronic Science and Technology of China

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HY Power-cn

About Us

Hangyu Power was founded in 2011 and is a national high-tech enterprise, Located in Songjiang, the birthplace of the G60 Science and Technology Innovation Corridor in the Yangtze River Delta, for over a decade Strive to provide customers with accurate, intelligent, and convenient testing power solutionsPlan.

Our company adheres to the product positioning of "specialty, precision, specialty, and novelty", and On the basis of targeting the market demand for "import substitution", propose "poor The development strategy of "differentiated import substitution" and "high-quality manufacturing"is committed to Innovative development of testing power supply technology in China, promoting the rejuvenation of science and technology in China The national cause is thriving.

Hangyu Power Series products cover power semiconductors, automotive electronics Aerospace, Defense and Military Industry, Low Voltage Electrical Appliances, Medical, Sensors Capacitors, inductors, smart grids, airborne, shipborne, weapons, ships.

Radar, communication, rail transit, power electronics, and other testing and other disciplines In the field of research, we strive to achieve perfect import substitution, with excellent military q uality and service,

Win unanimous praise from users.

Contact Us

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2009 Establishing Shanghai Ouzu Electronics Brand

2010 Successfully delivered 400kVA high-power AC power supply

2011 Hangyu Power Supply was established and officially put into operation as a three-phase precision AC power supply and militaryUsing a gyroscope to test the power supply, replacing Russian made products

2012 Formal production of programmable variable frequency power supply and AC constant current source

2013 Formal production of programmable AC/DC power supply and HY-AE excitation power supply

2014 Formal production of high-power bipolar testing power supply

2015 Formal production of HY-PM series and HY-GT series new models Dual phase/three-phase gyroscope power supply

2016 HY-HP series programmable high-power DC power supply officially put into operation

2017 HY-HV series programmable high-voltage DC power supply officially put into operation

2018 HY-CTL/CTS capacitor testing high-frequency high current testing power supply And successfully delivered 100kHz, 100Arms

2019 Official production of high-speed power supply for automotive electronic testing within 500kHz

2020 Officially put into operation LV123 new energy vehicle testing high-voltage ripple testing power supply

2021 HY-UHS series ultra-high stability magnet power supply officially put into operation

2022 HY-HVL series linear high-voltage programmable DC power supply officially put into operation