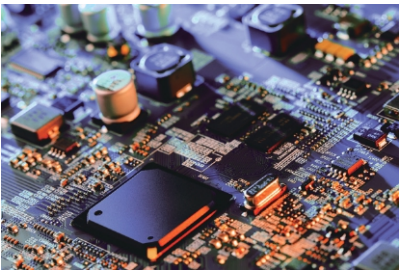
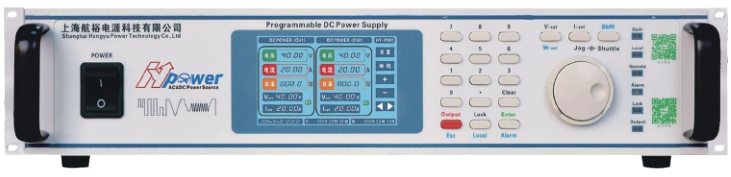
AC&DC Power Source

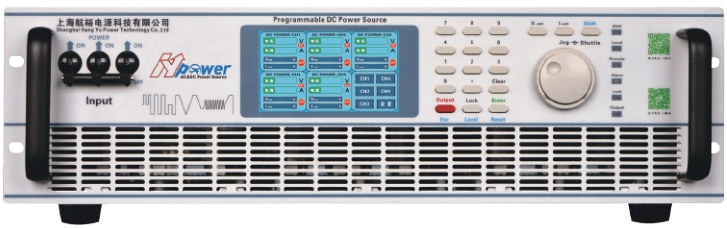
# HY-PMC series

## Programmable Multi-Channel DC Power Supply

Military Quality Power Supply Expert





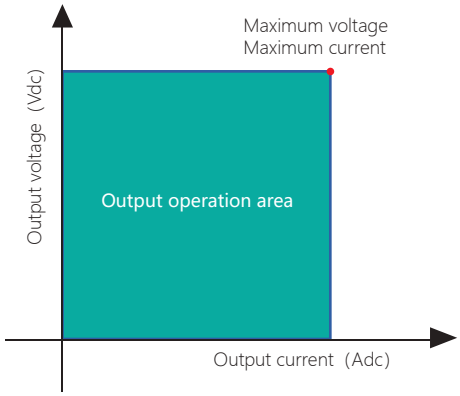




www.hypower.cn

# HY-PMC Series

## Programmable Multi-Channel DC Power Supply

### High purity, precision, and reliability




This multi-channel power module has a flexible architecture, allowing users to test according to the requirements The testing requirements of the product can be configured arbitrarily for each channel to meet various testing requirements.

## Product Features

- high-precision
- high resolution 1mV / 1mA
- Linear amplification technology, ultra-low ripple noise
- More than two channels of output, up to 120 channels, each channel's voltage/current can be independently controlled and adjustable, and each channel's output has isolation
- 16 bits D/A High precision converter with precise output
- 20 bits A/D High precision converter for more accurate read back

## Application Area

This multi-channel power supply is suitable for production line aging testing and automatic testing system construction, as well as various experiments and evaluations, quality management and other occasions.

- Provide pure power supply for RF, microwave circuits or components
- Industrial DC/DC converters
- Automotive Electronic Circuit Testing
- Production line scale aging test
- Power semiconductor testing
- R&D laboratory testing
- System Integration Test
- National Defense and Military Industry
- AEROSPACE

# HY-PMC Series Product Selection Table

## Product Selection Instructions

### Product Model Naming Rules

| Product series | Output voltage | | Output current | | Number of output channels | | Purchasing function |
|---|---|---|---|---|---|---|---|
| HY-PMC | 80 | - | 10 | - | 2CH | - | CF |

Selection examples:
Model: HY-PMC 80-10-2CH-CF
Output voltage 0 - 80 V, Output current 0 - 10 A,
The number of output channels is two,
Choose User Defined Features

**Communication protocol**

Modbus
SCPI

**Standard communication interface**

RS-485
RS-232
Digital I/O

**Optional communication interface (Users can install it themselves)**

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

**Purchasing function**

- PN : Positive and negative switching
- CP : Constant power function
- ABD : Anti backflow diode
- BD : Anti reverse diode
- TVS : tvs
- HS : High speed jump function (installed during factory shipment)
- HR : High resolution/precision
- DI : DC IN, DC 28 V / 270 V (Please specify when ordering)
- T1 : Operation temperature -10℃ to 50℃
- T2 : Operation temperature -20℃ to 50℃
- T4 : Operation temperature -40℃ to 50℃
- CF : User defined functions (please specify when ordering)
- MR : Measurement report (issued by a third party certified by CNAS)
- SP : Sequence and function programming functions

*Only when the equipment operates continuously at the specified operating temperature for more than 30 minutes can all technical indicators be guaranteed。

## HY-PMC Series Product Selection Table

In the selection table, special specifications beyond the voltage/current/power range are accepted for customization

| Model | Output voltage | Output current | Output power |
|---|---|---|---|
| HY-PMC 80-10 | 0 - 80V | 0 - 10A | 800W |
| HY-PMC 80-5 | | 0 - 5A | 400W |
| HY-PMC 60-10 | 0 - 60V | 0 - 10A | 600W |
| HY-PMC 60-5 | | 0 - 5A | 300W |
| HY-PMC 40-20 | 0 - 40V | 0 - 20A | 800W |
| HY-PMC 40-10 | | 0 - 10A | 400W |
| HY-PMC 30-20 | 0 - 30V | 0 - 20A | 600W |
| HY-PMC 30-10 | | 0 - 10A | 300W |
| HY-PMC 20-40 | 0 - 20V | 0 - 40A | 800W |
| HY-PMC 20-20 | | 0 - 20A | 400W |

# HY-PMC Series Ordering information

## CV Mode

| | |
|---|---|
| Settable output range | 0 - Rated output value |
| Input adjustment rate | ≤0.01% +0.01% (range) |
| Load regulation | ≤0.01% +0.01% (range) |
| Ripple effective value ms (3Hz-300kHz) | ≤0.01% (80%-100% Rated Output) |
| Telemetry maximum compensation voltage | <30V When 2V; ≥30V When 8V; (Customizable according to demand) |
| Transient response time | ≤100μs |

## CC Mode

| | |
|---|---|
| Settable output range | 0 - Rated output value |
| Input adjustment rate | ≤0.03% +0.03% (range) |
| Load regulation | ≤0.03% +0.03% (range) |
| Ripple effective value rms (3Hz-300kHz) | ≤0.03% (80%-100% Rated Output) |

## Programming And Readback Accuracy Resolution

| | |
|---|---|
| Voltage output programming accuracy | Rated output voltage 0.05% |
| Current output programming accuracy | Output current 0.1%+Rated output current 0.1% |
| Voltage setting resolution | 0.001V (≤60 V) ,0.01V (≤600 V) ,0.1V ( > 600 V) |
| Current setting resolution | 0.001A (≤60 A) ,0.01A (≤600 A) ,0.1A ( > 600 A) |
| Voltage output readback accuracy | Rated output voltage ±0.02%+Actual voltage ±0.02% |
| Current output readback accuracy | Rated output current ±0.1%+Actual current ±0.1% |
| Voltage read back resolution | 0.00001 V ( ≤ 10 V ),0.0001 V ( ≤ 100 V ), 0.001 V ( 100 V < U ≤ 1000 V ), 0.01 V ( > 1000 V ) |
| Current read back resolution | 0.00001 A ( ≤ 10 A ), 0.0001 A ( ≤ 100 A ), 0.001 A ( 100 A < I ≤ 1000 A ) |

## Stability Temperature Coefficient

| | | |
|---|---|---|
| Stability (rated output voltage/current) | U:0.01% | I: 0.01% ( UAfter 30 minutes of power on at a certain input voltage and load ambient temperature, 8 hours ) |
| Temperature coefficient (rated output voltage/current) | U:50ppm/℃ | I: 70ppm/℃ (After 30 minutes of power on) |

# HY-PMC Series Technical Parameter

## Protection Function

| | |
|---|---|
| OVP Over voltage protection setting range | 10 - 110%，Immediate shutdown of output beyond limit |
| OCP Over current protection setting range | 0 - 105%，Immediate shutdown of output beyond limit |
| OTP Over temperature protection | Immediate shutdown of output beyond limit |
| OPP Over power protection | 10 - 110%，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 50℃，optional -10℃ to 50℃， -20℃ to 50℃， -40℃ to 50℃ |
| Storage environment temperature | -20℃ to 65℃， |
| Working environment humidity | 20%-90% RH，No condensation, continuous operation |
| 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, front/side air inlet, rear air outlet |
| Noise | ≤ 65dB(A)，Weighted measurement with 1 m |

## Control Panel

| | |
|---|---|
| Monitor | 4-inch&7-inch, LCD display, touch screen |
| Control function | Digital key 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) |
| Programming function | Step, ladder, gradient functions |

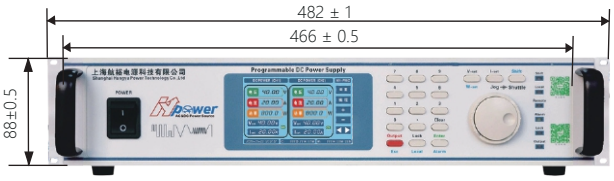
## Input Power Supply

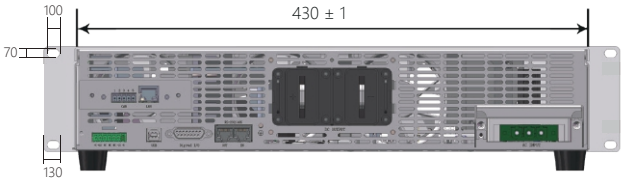
| | |
|---|---|
| Frequency | 47 Hz - 63 Hz |
| Connection | Single phase two wire+ground wire，AC220V±15% |

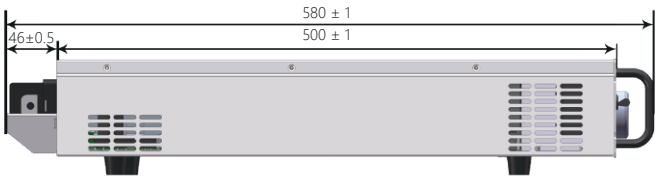
## Size

| | |
|---|---|
| Size | 430(W) * 500(D) * 88(H) mm, 2U<br>482.6(W) * 660(D) * 133(H) mm, 3U<br>430(W) * 560(D) * 178(H) mm, 4U<br>不同的电压、功率使用不同的机箱 |

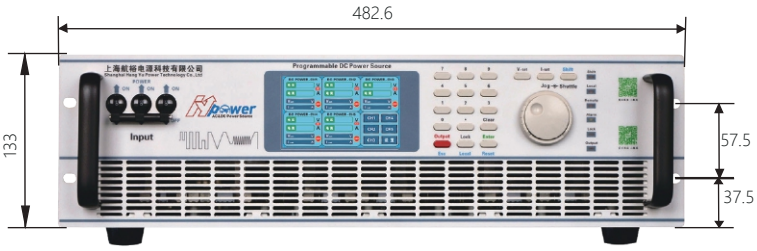
## 2U 430(W) * 500(D) * 88(H) mm

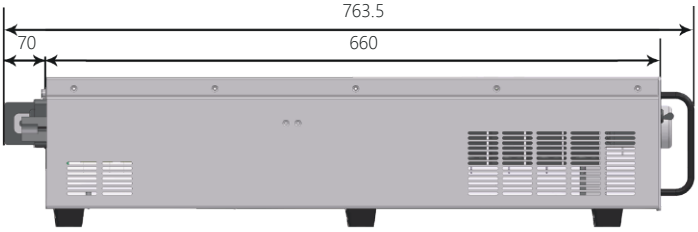


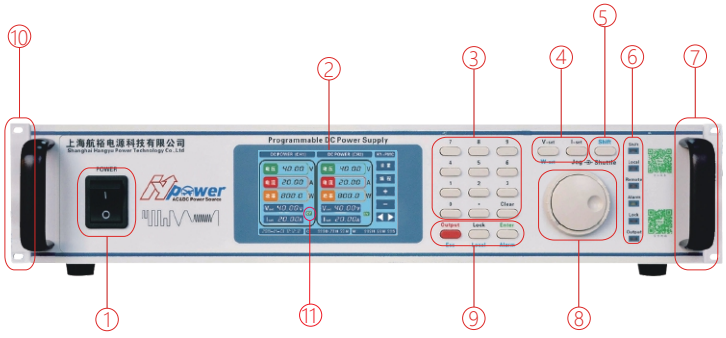




## 3U 482.6(W) * 660(D) * 133(H) mm



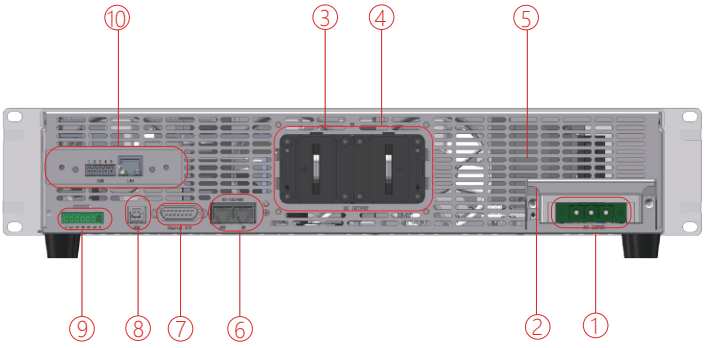




## Control Panel



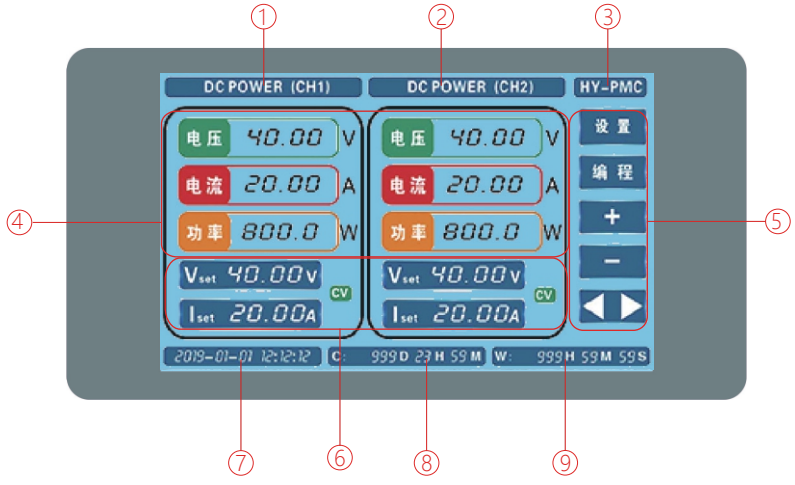

① Power input circuit breaker (2U single-phase, 3U three-phase)
② LCD Display (4-inch, touch screen)
③ Number input keyboard
④ Voltage/current/power setting key
⑤ Shift Function reset key
⑥ Status
⑦ Chassis handle
⑧ Multistage shuttle adjustment knob (inner circle fine adjustment/outer circle coarse adjustment)
⑨ Lock, Enter to confirm, Esc to exitLocal, Reset restart Output ON/OFF switch
⑩ 19 inch standard rack mounting holes
⑪ CC/CV priority can be set

## Rear Panel



① AC input terminal
② AC input terminal protective cover
③ DC output terminal ( + / - )
④ DC output terminal protective cover
⑤ Heat dissipation air outlet
⑥ RS-485 & RS-232 Communication interface
⑦ Digital I/O Communication interface
⑧ USB Communication interface
⑨ Remote compensation measurement terminal
⑩ Purchase communication interface (one out of three)
LAN & CAN Communication interface
GPIB Communication interface
Analog programming and monitoring interface (isolated type)

## Display Interface




① thoroughfare 1
② thoroughfare 2
③ Product Series
④ Voltage/current/power read back display area
⑤ Function setting area
⑥ Voltage/Current Setpoints&CV/CC Status
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
- 喜利得
- 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

SEARI 上电科 上海電器科學研究所(集团)有限公司 Shanghai Electrical Apparatus Research Institute (Group) Co., Ltd.

苏州电器科学研究院股份有限公司
国家智能电网中高压成套设备质量监督检验中心
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

Official WeChat:
hypower-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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website:www.hangyupower.com


| | |
|---|---|
| 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 |