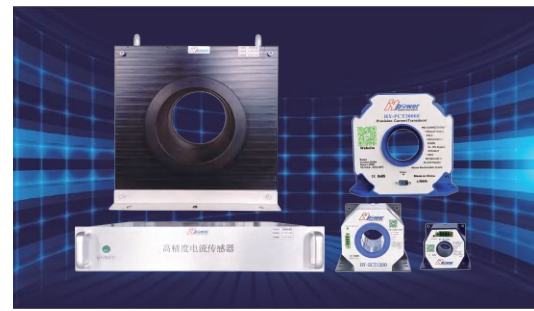
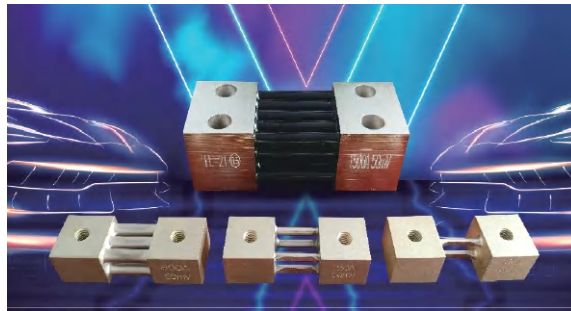




# HY-HPDSU Series

High Precision DC Power Supply

Military Quality Power Supply Expert



## High precision, High power density



HY-HPDSU series high precision DC power supply, dedicated to high precision current sensors, automotive DC current shunt calibration accuracy. Power supply accuracy level up to 0.01, 0.02, 0.05 optional.

### Product Features

- Power supply accuracy level 0.01, 0.02, 0.05 optional
- Output current range: 0-50kA optional
- Can achieve multi-range automatic switching, no conversion device, longer life and higher stability
- High precision DC ammeter can be selected to set up DC current shunt test system
- Optional 10ppm high-precision current sensor for current sensor comparison test
- Optional positive and negative polarity conversion device for current sensor positive and negative current test
- Input standard PFC, power factor up to 0.99

### Application Field

- Dedicated for automotive sensors, Shunt calibration accuracy

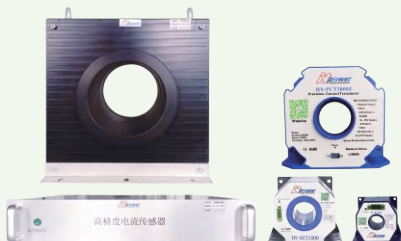


Automotive high-precision current sensor



Automotive DC current shunt

### Optional High-Precision Current Sensor For Current Sensor Comparison Test



HY-PCTSU series high-precision sensors, the original edge rated dc current is up to 30kA, the accuracy is up to 10ppm, with excellent linearity and accuracy, strong anti-electromagnetic interference ability, and ultra-low response time.

- High precision: 5ppm, 10ppm, 50ppm optional (2ppm can be customized)
- Drift zero: 2ppm
- Temperature influence: 1ppm/10 degrees
- Can measure AC, DC, pulse current
- On-load start, overload protection, self-recovery function

# HY-HPDSU Series Schematic Diagram For Selection And Testing

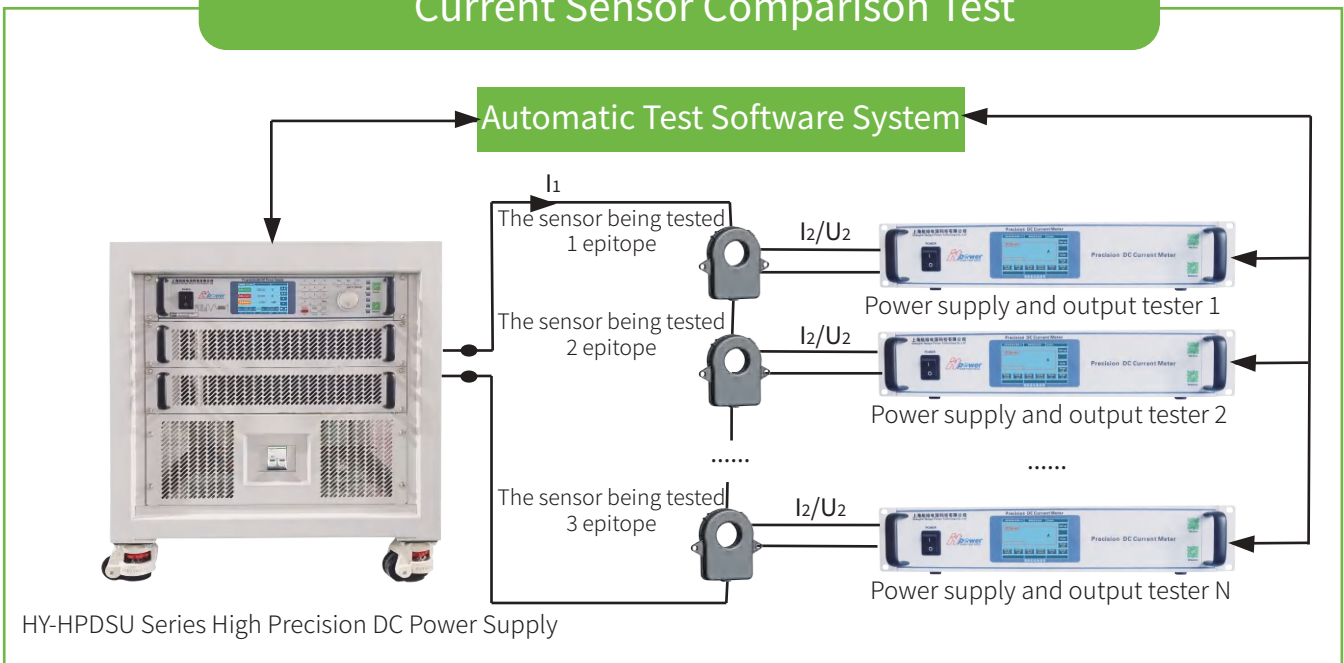
## A high Precision DC Ammeter Is Selected To Set Up a DC Current Shunt Test System

HY - CMSU series high precision current meter, observable small or large current, can be used for electronic and electrical measurement, industrial automation, instrument testing and measurement.

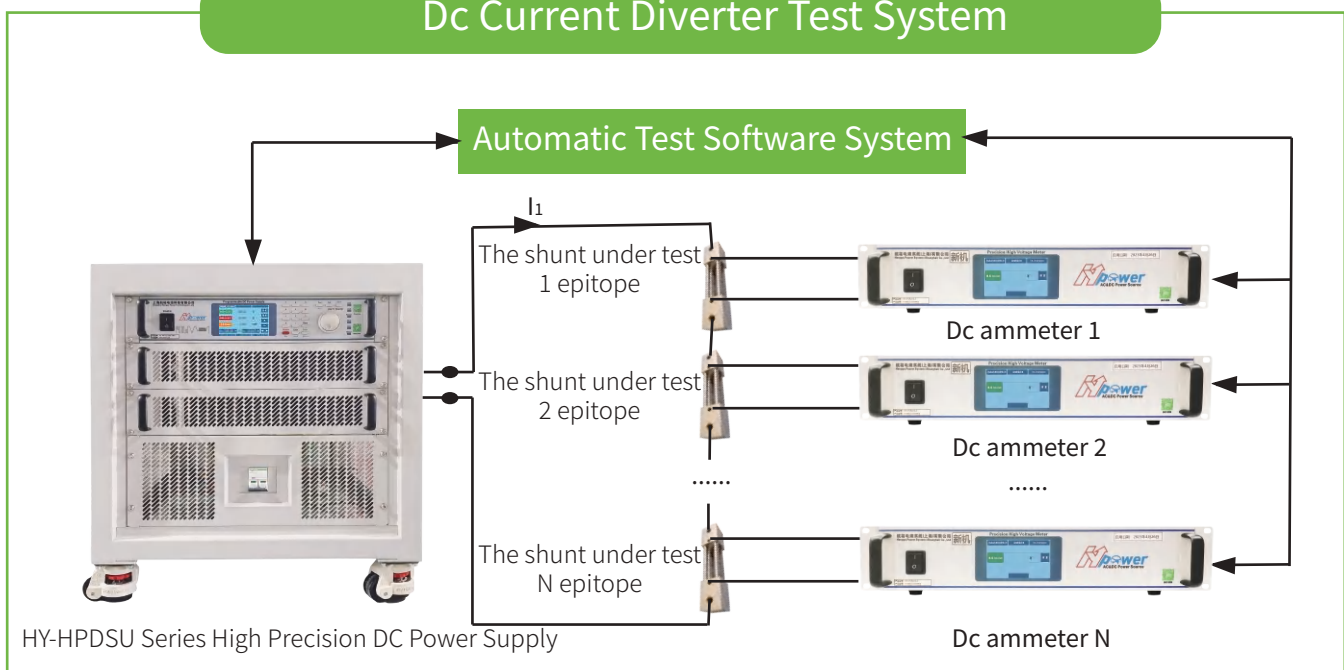


- Current measurement range: 0.001A-30000A Optional
- Measuring accuracy: 0.01, 0.02, 0.05
- Voltage measurement function: 0-1000.00V
- Measuring accuracy of voltmeter: DC 0.01%

## Current Sensor Comparison Test



## Dc Current Diverter Test System



# HY-HPDSU Series Product Selection Table

## Product Model Naming Rules

Product series	Output voltage	Output current	Precision of choice to buy	Optional function	Optional function
HY-HPDSU	10	- 10000	- 01	- CF	- PN : Positive and negative switching - CP : Constant power function - SP : Sequence, function programming functions - T1 : Operating temperature -10°C to 50°C - T2 : Operating temperature -20°C to 50°C - T4 : Operating temperature -40°C to 50°C - CF : User-defined functions (please specify when ordering) - MR : Measurement report (issued by CNAS certified third party)
Product model: HY-HPDSU 10-10000-01-CF The model information is: output voltage 0-10V, output current 0-10000A, The selection accuracy is 0.01 level, users choose and purchase custom functions					

Communication protocol	Standard communication interface	Optional communication interface
Modbus SCPI	RS-485 RS-232 Digital I/O	- LAN : Ethernet communication interface - CAN : CAN communication interface - GPIB : GPIB communication interface - IA : Analog quantity programming and monitoring interface (isolated type)

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

## HY-HPDSU Series Product Model Selection And Parameters

- 1, output voltage: 5V, 10V optional; Accuracy: 0.01 grade, 0.02 grade, 0.05 grade optional;
- 2, In the selection table, special specifications outside the range of voltage/current/power can be customized;
- 3, current output range (single current source) : 0-1000A;
- 4, adjust fineness: 0.0005%\*RG, 7-bit display;
- 5, establishment time: output to 0.01% accuracy time is less than 3s.

## 5V, 10V Series Power Supply Selection

Models	Output voltage	Output current	Output power	Short-term stability (%/h)			Optimal measurement uncertainty (k=2), ppm*RD+ppm*RG		
				Level 0.01	Level 0.02	Level 0.05	Level 0.01	Level 0.02	Level 0.05
HY-HPDSU 10-50	5V/10V	50A	500W	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-100	5V/10V	100A	1000W	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-150	5V/10V	150A	1500W	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-200	5V/10V	200A	2000W	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-250	5V/10V	250A	2500W	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-300	5V/10V	300A	3000W	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-400	5V/10V	400A	4000W	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-500	5V/10V	500A	5000W	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-1000	5V/10V	1000A	10kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-1500	5V/10V	1500A	15kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-2000	5V/10V	2000A	20kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-2500	5V/10V	2500A	25kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-3000	5V/10V	3000A	30kW	0.003	0.005	0.01	70+30	150+50	400+100

# HY-HPDSU Series Technical Parameters

## 5V, 10V Series Power Supply Selection

Models	Output voltage	Output current	Output power	Short-term stability (%/h)			Optimal measurement uncertainty (k=2), ppm*RD +ppm*RG		
				Level 0.01	Level 0.02	Level 0.05	Level 0.01	Level 0.02	Level 0.05
HY-HPDSU 10-3500	5V/10V	3500A	35kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-4000	5V/10V	4000A	40kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-4500	5V/10V	4500A	45kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-5000	5V/10V	5000A	50kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-5500	5V/10V	5500A	55kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-6000	5V/10V	6000A	60kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-6500	5V/10V	6500A	65kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-7000	5V/10V	7000A	70kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-7500	5V/10V	7500A	75kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-8000	5V/10V	8000A	80kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-8500	5V/10V	8500A	85kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-9000	5V/10V	9000A	90kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-9500	5V/10V	9500A	95kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-10kA	5V/10V	10kA	100kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-11kA	5V/10V	11kA	110kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-12kA	5V/10V	12kA	120kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-13kA	5V/10V	13kA	130kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-14kA	5V/10V	14kA	140kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-15kA	5V/10V	15kA	150kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-20kA	5V/10V	20kA	200kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-30kA	5V/10V	30kA	300kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-40kA	5V/10V	40kA	400kW	0.003	0.005	0.01	70+30	150+50	400+100
HY-HPDSU 10-50kA	5V/10V	50kA	500kW	0.003	0.005	0.01	70+30	150+50	400+100

## Dc Voltage Measurement DCV (optional)

Range of measuring	Minimum resolution	The best measurement uncertainty (k=2) ppm*RD+μV			Temperature coefficient, ±ppm*RD/°C		
		Level 0.01	Level 0.02	Level 0.05	Level 0.01	Level 0.02	Level 0.05
1mV	1nV	70+0.5μ	80+0.5μ	150+1μ	15	15	30
10mV	10nV	70+1μ	80+1.5μ	150+3μ	5	5	10
100mV	100nV	70+3μ	80+5μ	150+10μ	5	5	10
1V	1μV	70+30μ	80+10μ	150+20μ	2	2	5
10V	10μV	70+300μ	80+50μ	150+100μ	2	2	5

1, voltage measurement range: ± (100μV~11V), manual/automatic range shift

2, input resistance: > 1GΩ

3, Input protection: 50Vpk, continuous

## Stability And Temperature Coefficient

Temperature Drift	U: 0.01%      I: 0.01% (After 30 minutes of power on at a certain input voltage and load ambient temperature, 8 hours)
Temperature Coefficient	U: 50 ppm/°C    I: 70 ppm/°C (30 minutes after power on)

## Protection Function

OVP Overvoltage Protection Setting Range	10-110%, beyond the limit output immediately off
OCP Overcurrent Protection Setting Range	0-105%, beyond the limit output immediately off
OTP Overtemperature Protection	Output beyond the limit is turned off immediately
OPP Overpower Protection	10-110%, beyond the limit output immediately off

## Environmental Condition

Environment	Indoor use; Installation overvoltage class: II; Pollution level: P2; Class II equipment
Operating Ambient Temperature	0°C to 50°C, optional -10°C to 50°C, -20°C to 50°C, -40°C to 50°C
Storage Ambient Temperature	-20°C to 65°C,
Working Ambient Humidity	20%-90% RH, no dew formation, continuous operation
Storage Environment Humidity	10% - 95% RH, no dew formation
Altitude	Above 2000 meters above sea level, every 100 meters up, the power will be reduced by 2%, or reduce the maximum working ambient temperature by 1°C per 100 meters; When not in operation, the altitude can reach 12,000 meters
Cooling	Forced air cooling, intelligent speed regulating fan, front/side air inlet, rear air outlet
Noise	≤ 65dB(A), use 1 m to weighted measurement

## Control Panel

Display	4/7 inch LCD display, touch screen
Control Function	Digital key input, multi-stage shuttle knob adjustment (outer ring coarse adjustment/inner ring fine adjustment), output ON/OFF switch, Lock keyboard and touch lock, Reset Restart status indicator (Shift/Local/Remote/Alarm/Lock/Output)
Programming Function	Step, Ladder, Gradient

## Input Power Supply

Frequency	47 Hz - 63 Hz
Connection Mode	Single-phase two-wire + ground, 220 V ± 15% Three-phase three-wire + ground wire, 380 V ± 15% (-3P standard configuration model)
Power Factor (Typical Value)	0.99(single-phase input) / 0.94(three-phase input)

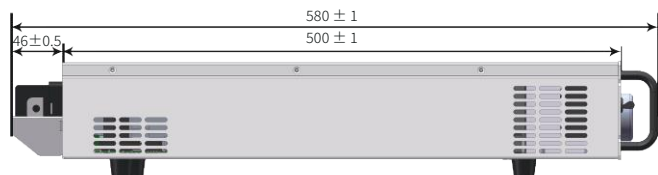
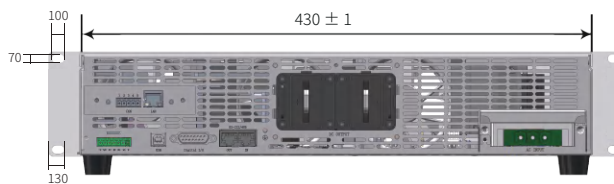
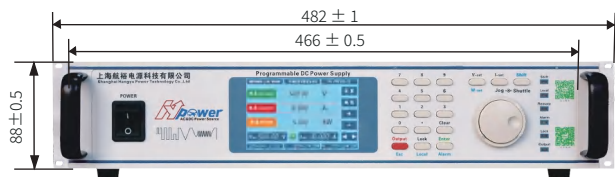
## Size And Weight

Note: See page P112 for more information on appearance and display

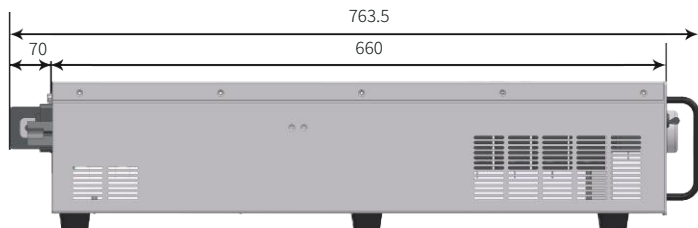
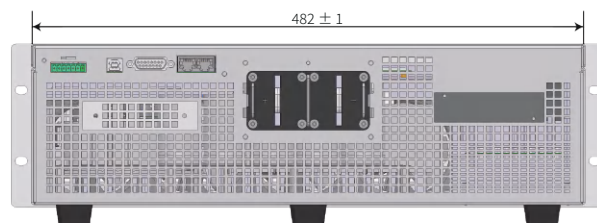
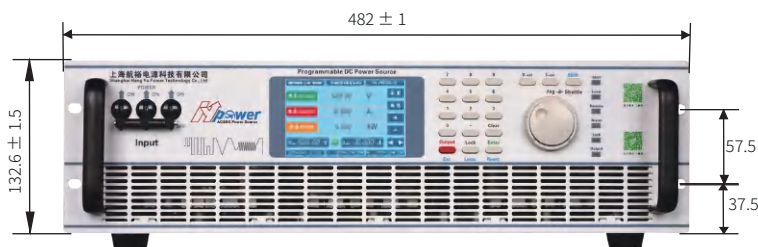
Size	430 (W) * 500 (D) * 88 (H) mm, 2U 450 (W) * 660 (D) * 133 (H) mm, 3U 440 (W) * 600 (D) * 445 (H) mm, 10U Size can be changed according to user requirements
Weight	15kg/2U ; 35kg/3U ; 45k/4U
Colour	RAL 7035

# Appearance&Size Outline Dimension

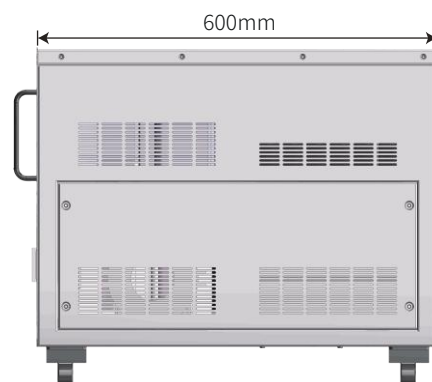
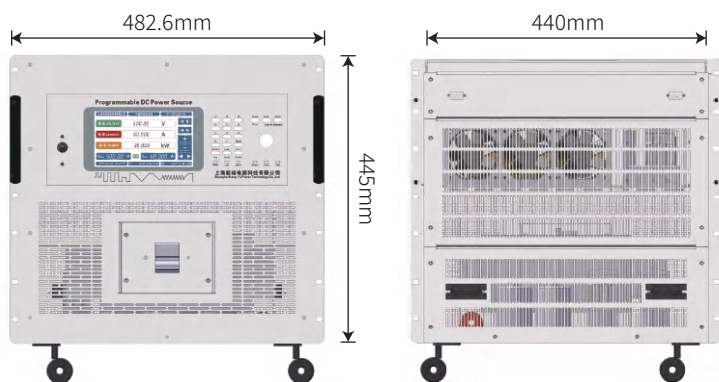
2U 430(W) \* 500(D) \* 88(H) mm



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

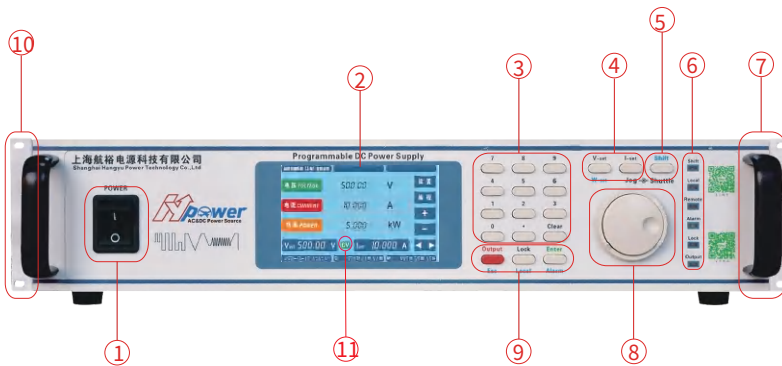


10U 440(W) \* 600(D) \* 445(H) mm



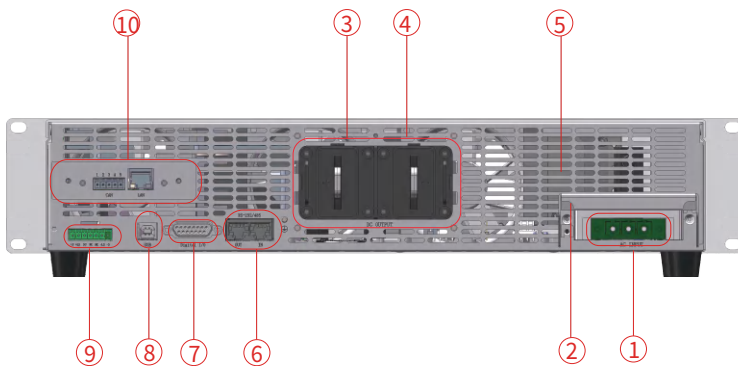
# Display and Control Panel Display & Control Panel

## Control Panel



- ① Power input circuit breaker
- ② LCD Display (4-inch, touch screen)
- ③ Number input keyboard
- ④ Voltage/current 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 exit Local, 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 Output copper bar
- ④ Output end 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 Choose communication interface  
(One out of three)  
LAN & CAN communication interface  
GPIB communication interface  
Analog programming and monitoring interface (isolated type)

## Display Interface



- ① Manufacturer's name
- ② product name
- ③ Model
- 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 Customer



## Enterprise In The Field Of Automotive Electronics



## High-Tech R&D Enterprise



## Aerospace & Defense Military Industry Research Institute



CASC



CASIC



AVIC



AECC



CETC



CSSC



CSIC

CASC 800 ( Shanghai Aerospace Precision Machinery Research Institute )

CASC 801 ( Shanghai Institute of Space Propulsion )

CASC 803 ( Shanghai Aerospace Control Technology Institute )

CASC 804 ( Shanghai Aerospace Electronic Communication Equipment Research Institute )

CASC 805 ( Shanghai Aerospace System Engineering Institute )

CASC 808 ( Shanghai Precision Measurement and Testing Institute )

CASC 811 ( Shanghai Space Power Research Institute )

CASC 812 ( Shanghai Satellite Equipment Research Institute )

CASC 502 ( Beijing Control Engineering Research Institute )

CASC 510 ( Lanzhou Institute of Space Technology Physics )

CASC 203 ( China Ordnance Industry 203 Research Institute )

CASIC 206 ( Beijing Machinery and Equipment Research Institute )

CASIC 242 Factory ( Lanzhou Flight Control Co., LTD. )

CASIC 307 Factory ( Aerospace Chenguang Co., LTD. )

CASIC 33 ( 33 Aerospace Science and Industry Institutes )

CASIC 3651 Factory ( Shanghai Aerospace Control Technology Institute )

AVIC 603 ( AVIC Xi 'an Aircraft Design and Research Institute )

AVIC 613 ( Luoyang Electro-Optical Equipment Research Institute of Aviation Industry Corporation of China )

AVIC 615 ( Aeronautical Radio Electronics Research Institute of China )

AVIC 618 ( Xi 'an Flight Automatic Control Research Institute )

AVIC 631 ( Aviation Computing Technology Research Institute of AVIC )

AVIC 105 Factory ( Tianjin Aviation Electromechanical Co., LTD. )

AVIC 115 Factory ( Shaanxi Aero Electric Co., LTD. )

AVIC 118 Factory ( Shanghai Aviation Electric Appliance Co., LTD. )

AVIC 135 Factory ( State-owned Wanli Electromechanical Factory )

AVIC 181 Factory ( Wuhan Aviation Instrument Co., LTD. )

AVIC 304 ( Beijing Great Wall Institute of Measurement and Testing Technology )

AECC 606 ( Shenyang Engine Research Institute )

AVIC 607 ( China Leihua Electronic Technology Institute )

Jiangnan Shipbuilding (Group) Co., LTD

Nanjing Panda Electronics Co., LTD

State-owned 741 Factory ( Nanjing Huadong Electronics Group Co., LTD. )

Institute of Modern Physics, Chinese Academy of Sciences

CETC 14 ( Nanjing Institute of Electronic Technology )

CETC 21 ( Shanghai Micromotor Research Institute )

CETC 23 ( Shanghai Transmission Line Research Institute )

CETC 36 ( Gangnam Electronics and Communication Research Institute )

CETC 38 ( East China Institute of Electronic Engineering )

CETC 50 ( Shanghai Microwave Technology Research Institute )

CETC 51 ( Shanghai Microwave Equipment Research Institute )

CETC 54 ( Shijiazhuang Communication Measurement and Control Technology Research Institute )

CETC 55 ( Nanjing Institute of Electronic Devices )

CSIC 707 ( Tianjin Institute of Marine Instruments )

CSIC 7107 ( Shaanxi Aerospace Navigation Equipment Co., LTD. )

CSIC 719 ( Wuhan Second Ship Design Institute )

CSIC 704 ( Shanghai Marine Equipment Research Institute )

CSIC 726 ( Shanghai Marine Electronic Equipment Research Institute )

## Scientific Research & Third Party Quality Inspection Agency



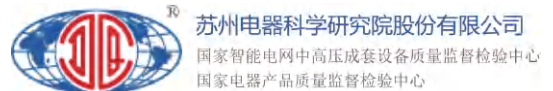
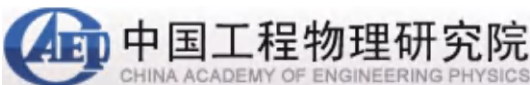
Technical Institute of Physics and Chemistry (Beijing)

Institute of Urban Environment (Xiamen)



Electrotechnical Research Institute (Beijing)

Institute of Applied Physics (Shanghai)



# Cooperative Clients (Partial)

## The Chinese People's Liberation Army

South Sea Fleet  
 East China Sea Fleet  
 North Sea Fleet  
 Navy Factory 701 / Factory 702  
 4724 Factory (Shanghai Haiying Machinery Factory)  
 Unit 95861 (Air First Base)  
 5720 Factory of the People's Liberation Army of China

## Commercial Aviation



Guangzhou Aircraft Maintenance Engineering Co., LTD



Rockwell Collins



Beijing Aircraft Maintenance Engineering Co., LTD

## Military Academies & 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



## Contact us

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Programmable DC Power Supply Product Catalog, version 08.00, April 2024

All technical data and instructions are based on the actual product

If there is any change, Hangyu Power has the final interpretation right

Authorized distributor:

