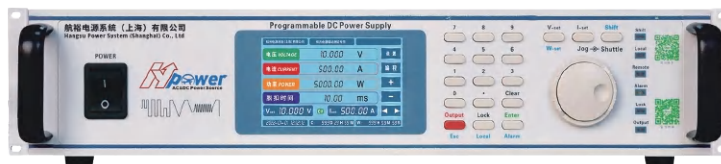
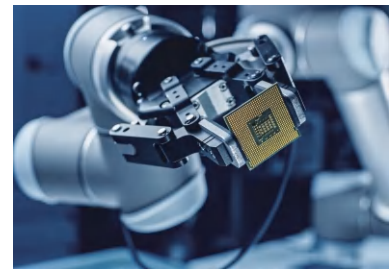
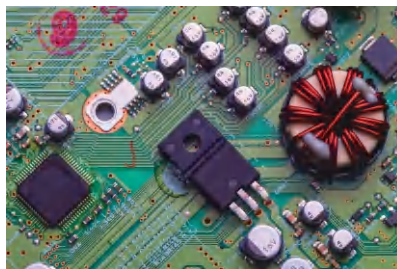




# HY-PMHSU Series

Programmable And Multifunctional High-speed DC Power Supply

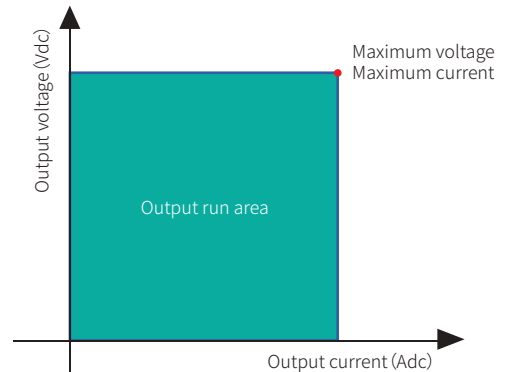
Military Quality Power Supply Expert



# HY-PMHSU Series Programmable And Multifunctional High-speed DC Power Supply



High performance, High precision High power density



This series of power supply is dedicated to low voltage electrical instantaneous test, including circuit breaker tripping test and fuse fusing test.

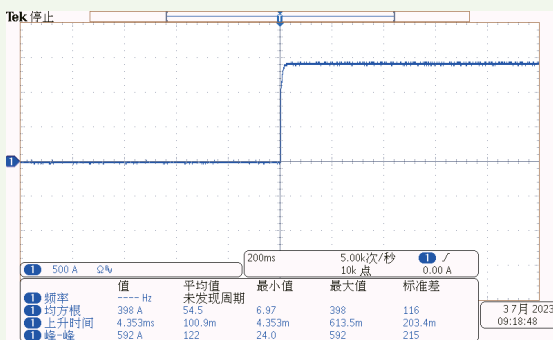
## Product Features

- Meet the GBT 14048.1-2012/2020 time constant 10ms test requirements
- Output voltage: 5V, 10V, 20V optional
- The maximum output current of a single machine is 1500A
- Can be more than one machine, the maximum current up to 75kA
- Input standard PFC, power factor up to 0.99
- 16 bits D/A high precision converter, accurate output
- 20 bits A/D high precision converter, more accurate read back

## Application Field

- Circuit breaker trip test
- Fuse fuse test
- Reliability test
- Temperature rise test
- Rated connection
- Short circuit connection
- Life test
- Action characteristic test

## Transient Motion Test



The HY-PMHSU series is used for practical test of circuit breakers, Current rise time measured  $\leq 10\text{ms}$  (some models)

Hangyu power supply can solve low-voltage electrical testing problems such as frame current sensors, circuit breakers, plastic-case circuit breakers, micro circuit breakers, relays, contactors, wiring harnesses, cables, connectors, etc. Meet IEC60947-2 standard, circuit breaker transient test current rise response time must be less than 10ms test conditions, current demand up to 50kA, Hangyu power supply has high output current accuracy and a variety of programming functions, which makes the temperature rise endurance test and instantaneous experiment of circuit breakers more accurate and convenient.

The transient motion test is one of the main experimental items to detect the operating characteristic of the instantaneous overcurrent release of low-voltage circuit breaker. Its working principle is to control the main circuit power supply on and off, the test current is added to the test product to check whether the instantaneous overcurrent trip characteristics meet the requirements of the standard. The characteristics of this experiment are: the test current is large, but there is no voltage requirement; The main circuit power on time is short; The number of test products (i.e., products) is large, and the test operation frequency is high; According to GB998-82, the test requires that the test current through the instantaneous overcurrent release should be symmetrical, that is, there is basically no DC component.

# HY-PMHSU Series Product Selection Table

## Product Model Naming Rules

Product series	Output voltage	Output current	Optional function
HY-PMHSU	10	-	10000 - CF
Product model: HY-PMHSU 10-10000-CF The output voltage is 0-10V, and the output current is 0-10000A Choose user-defined features			

## Optional Purchase Function

- PN : Positive/negative switchover
- CP : Constant power function
- SP : Sequence, functional programming functions
- ABD : Prevents backfilling diodes
- BD : Prevent connecting the reverse diode
- TVS : transient suppression diode
- PS : Attack rate absorption (supported by some models, installed at factory shipment)
- HS : High speed jump function (installed at factory shipment)
- HR : High resolution/precision
- TP : Three-phase input, AC 380 V
- 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)

Communication protocol	Standard communication interface	Optional communication interface
Modbus	RS-485	- LAN : Ethernet communication interface
SCPI	RS-232	- CAN : CAN communication interface
	Digital I/O	- 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-PMHSU Series Product Model Selection And Parameters

Special specifications outside the voltage/current/power range in the selection table can be customized. Please consult Hangyu Power for 5V series models.

### 10V Series Power Supply Selection

Models	Output voltage	Output current	Output power
HY-PMHSU 10-100	10V	100A	1kW
HY-PMHSU 10-160	10V	160A	1.6kW
HY-PMHSU 10-250	10V	250A	2.5kW
HY-PMHSU 10-360	10V	360A	3.6kW
HY-PMHSU 10-500	10V	500A	5kW
HY-PMHSU 10-1000	10V	1000A	10kW
HY-PMHSU 10-1500	10V	1500A	15kW
HY-PMHSU 10-2000	10V	2000A	20kW
HY-PMHSU 10-3000	10V	3000A	30kW
HY-PMHSU 10-4000	10V	4000A	40kW

Models	Output voltage	Output current	Output power
HY-PMHSU 10-5000	10V	5000A	50kW
HY-PMHSU 10-6000	10V	6000A	60kW
HY-PMHSU 10-8000	10V	8000A	80kW
HY-PMHSU 10-10kA	10V	10kA	100kW
HY-PMHSU 10-20kA	10V	20kA	200kW
HY-PMHSU 10-30kA	10V	30kA	300kW
HY-PMHSU 10-40kA	10V	40kA	400kW
HY-PMHSU 10-50kA	10V	50kA	500kW
HY-PMHSU 10-60kA	10V	60kA	600kW
HY-PMHSU 10-75kA	10V	75kA	750kW

### 20V Series Power Supply Selection

Models	Output voltage	Output current	Output power
HY-PMHSU 20-50	20V	50A	1kW
HY-PMHSU 20-80	20V	80A	1.6kW
HY-PMHSU 20-125	20V	125A	2.5kW
HY-PMHSU 20-180	20V	180A	3.6kW
HY-PMHSU 20-250	20V	250A	5kW
HY-PMHSU 20-500	20V	500A	10kW
HY-PMHSU 20-750	20V	750A	15kW
HY-PMHSU 20-1000	20V	1000A	20kW
HY-PMHSU 20-1500	20V	1500A	30kW
HY-PMHSU 20-2000	20V	2000A	40kW

Models	Output voltage	Output current	Output power
HY-PMHSU 20-2500	20V	2500A	50kW
HY-PMHSU 20-3000	20V	3000A	60kW
HY-PMHSU 20-4000	20V	4000A	80kW
HY-PMHSU 20-5000	20V	5000A	100kW
HY-PMHSU 20-10kA	20V	10kA	200kW
HY-PMHSU 20-15kA	20V	15kA	300kW
HY-PMHSU 20-20kA	20V	20kA	400kW
HY-PMHSU 20-25kA	20V	25kA	500kW
HY-PMHSU 20-30kA	20V	30kA	600kW
HY-PMHSU 20-37.5kA	20V	37.5kA	750kW

## HY-PMHSU Series Model Parameter Table

HY-PMHSU Series Power Supply Model Parameters Table 1 (1kW~15kW)							
Models	HY-PMHSU 10-100	HY-PMHSU 10-160	HY-PMHSU 10-250	HY-PMHSU 10-360	HY-PMHSU 10-500	HY-PMHSU 10-1000	HY-PMHSU 10-1500
Rated Output Voltage	10V	10V	10V	10V	10V	10V	10V
Rated Output Current	100A	160A	250A	360A	500A	1000A	1500A
Rated Output Power	1kW	1.6kW	2.5kW	3.6kW	5kW	10kW	15kW
Efficiency	80%	81%	84%	83%	84%	88%	89%
Models	HY-PMHSU 20-50	HY-PMHSU 20-80	HY-PMHSU 20-125	HY-PMHSU 20-180	HY-PMHSU 20-250	HY-PMHSU 20-500	HY-PMHSU 20-750
Rated Output Voltage	20V	20V	20V	20V	20V	20V	20V
Rated Output Current	50A	80A	125A	180A	250A	500A	750A
Rated Output Power	1kW	1.6kW	2.5kW	3.6kW	5kW	10kW	15kW
Efficiency	85%	86%	87%	83%	86%	91%	91%
Constant Current Mode (CC Mode)							
Output Range Can Be Set	0- Rated Output Value						
Input Adjustment Rate	0.05% of rated output current (AC input 220 V ± 15%, constant load)				When the current ≥333A is 0.1% of the rated output current; When the current <333A, it is 0.05% of the rated output current; (AC input 380 V ± 15%, constant load)		
Load Adjustment Rate	0.05% of rated output current (no-load to full load, constant input voltage)				When the current ≥333A is 0.1% of the rated output current; When the current <333A, it is 0.075% of the rated output current; (AC input 380 V ± 15%, constant load)		
Constant Pressure Mode (CV Mode)							
Output Range Can Be Set	0- Rated Output Value						
Input Adjustment Rate	0.05% of rated output voltage (AC input 220 V ± 15%, constant load)				0.1% of the rated output voltage (AC input 380 V ± 15%, constant load)		
Load Adjustment Rate	0.05% +5mV of the rated output voltage (No-load to full load, constant input voltage, measurement at the remote compensation point)				0.1% of the rated output voltage (No-load to full load, constant input voltage, measurement at the remote compensation point)		
Programming And Readback Accuracy & Resolution							
Voltage Output Programming Accuracy	0.05% of the rated output voltage, measured at the telemetry point						
Current Output Programming Accuracy	0.1% of the output current + 0.05% of the rated output current (in constant current programming mode, the readback and monitoring accuracy do not include the influence of heating drift and load temperature change rate)						
Voltage Setting Resolution	0.001V (≤60 V)						
Current setting resolution	0.001A(≤60A),0.01A(<600A),0.1A(>600A)						
Voltage Output Read-Back Accuracy	0.05% of the rated output voltage						
Current Output Read-Back Accuracy	0.1% of the output current + 0.05% of the rated output current (in constant current programming mode, the readback and monitoring accuracy do not include the influence of heating drift and load temperature change rate)						
Voltage Read Back Resolution	0.00001 V ( ≤ 10 V ),0.0001 V ( ≤ 100 V )						
Current Read Back Resolution	0.00001 A ( ≤ 10 A ), 0.0001 A ( ≤ 100 A ), 0.001 A ( 100 A < I ≤ 1000 A )						
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: 50ppm/°C I: 70ppm/°C (30 minutes after power on)						

# HY-PMHSU Series Technical Parameters

HY-PMHSU Series Power Supply Model Parameters Table 2 (20kW~100kW)							
Models	HY-PMHSU 10-2000	HY-PMHSU 20-1000	HY-PMHSU 10-3000	HY-PMHSU 20-1500	HY-PMHSU 10-4000	HY-PMHSU 20-2000	HY-PMHSU 10-5000
Rated Output Voltage	10V	20V	10V	20V	10V	20V	10V
Rated Output Current	2000A	1000A	3000A	1500A	4000A	2000A	5000A
Rated Output Power	20kW	20kW	30kW	30kW	40kW	40kW	50kW
Models	HY-PMHSU 20-2500	HY-PMHSU 10-6000	HY-PMHSU 20-3000	HY-PMHSU 10-8000	HY-PMHSU 20-4000	HY-PMHSU 10-10000	HY-PMHSU 20-5000
Rated Output Voltage	20V	10V	20V	10V	20V	10V	20V
Rated Output Current	2500A	6000A	3000A	8000A	4000A	10000A	5000A
Rated Output Power	50kW	60kW	60kW	80kW	80kW	100kW	100kW
Constant Current Mode (CC Mode)							
Output Range Can Be Set	0- Rated Output Value						
Input Adjustment Rate	0.1% of rated output current (AC input 380 V $\pm$ 15%, constant load)						
Load Adjustment Rate	0.1% of rated output current (no-load to full load, constant input voltage)						
Constant Pressure Mode (CV Mode)							
Output Range Can Be Set	0- Rated Output Value						
Input Adjustment Rate	0.1% of rated output voltage (AC input 380 V $\pm$ 15%, constant load)						
Load Adjustment Rate	0.1% of rated output voltage (no-load to full load, constant input voltage, measured at remote compensation point)						
Programming And Readback Accuracy & Resolution							
Voltage Output Programming Accuracy	0.05% of the rated output voltage, measured at the telemetry point						
Current Output Programming Accuracy	0.1% of the output current + 0.05% of the rated output current (in constant current programming mode, the readback and monitoring accuracy do not include the influence of heating drift and load temperature change rate)						
Voltage Setting Resolution	0.001V ( $\leq$ 60 V)						
Current setting resolution	0.001A ( $\leq$ 60A), 0.01A (< 600A), 0.1A (> 600A)						
Voltage Output Read-Back Accuracy	0.05% of the rated output voltage						
Current Output Read-Back Accuracy	0.1% of the output current + 0.05% of the rated output current (in constant current programming mode, the readback and monitoring accuracy do not include the influence of heating drift and load temperature change rate)						
Voltage Read Back Resolution	0.00001 V ( $\leq$ 10 V), 0.0001 V ( $\leq$ 100 V)						
Current Read Back Resolution	0.00001 A ( $\leq$ 10 A), 0.0001 A ( $\leq$ 100 A), 0.001 A (100 A < I $\leq$ 1000 A)						
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: 50ppm/ $^{\circ}$ C I: 70ppm/ $^{\circ}$ C (30 minutes after power on)						



# HY-PMHSU Series Technical Parameters

## 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

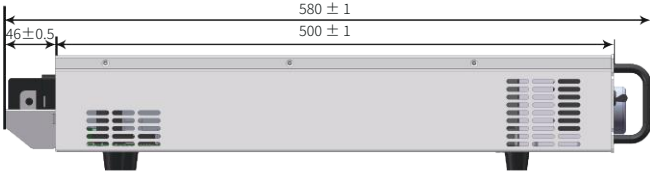
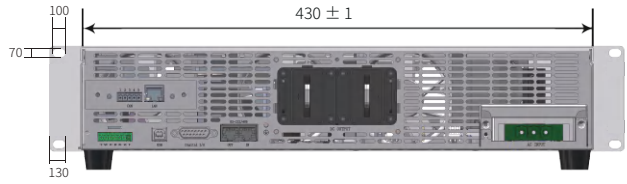
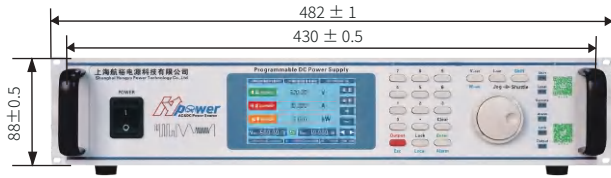
Frequency	47 Hz - 63 Hz
Connection Mode	Single-phase two-wire + ground, 220 V ± 15% Three-phase three-wire + ground wire, 380 V ± 15% (-3P standard configuration model)
Power Factor (Typical Value)	0.99(single-phase input) / 0.94(three-phase input)

## Size And Weight Note: See page P112 for more information on appearance and display

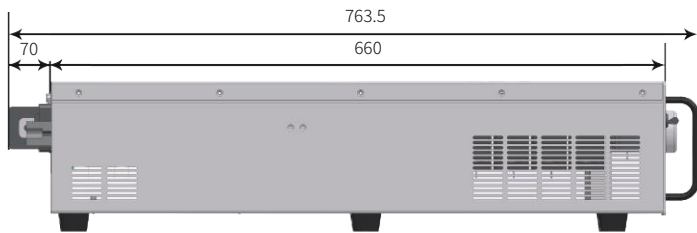
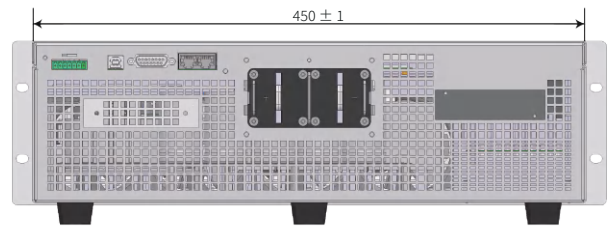
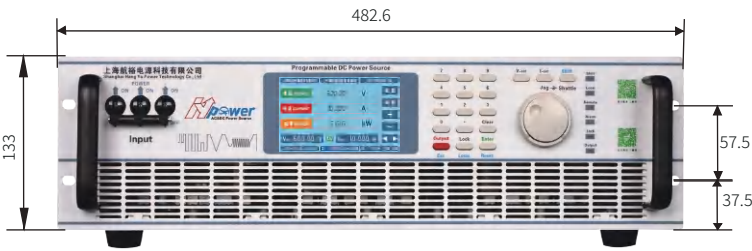
Size	2U model: 430(W) * 500(D) * 88(H) mm 3U model: 450(W) * 660(D) * 133(H) mm
Weight	15kg/2U ; 35kg/3U
Colour	RAL 7035

# HY-PMHSU Series Product Appearance

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

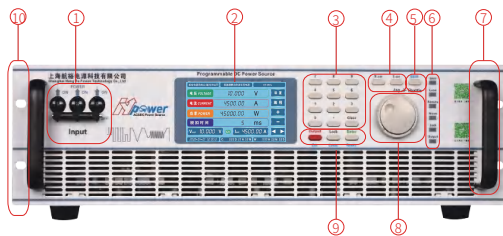


3U 482.6(W) \* 660(D) \* 133(H) mm

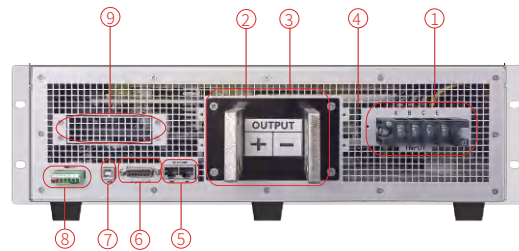


# HY-PMHSU Series Control Panel And Display

## Control Panel

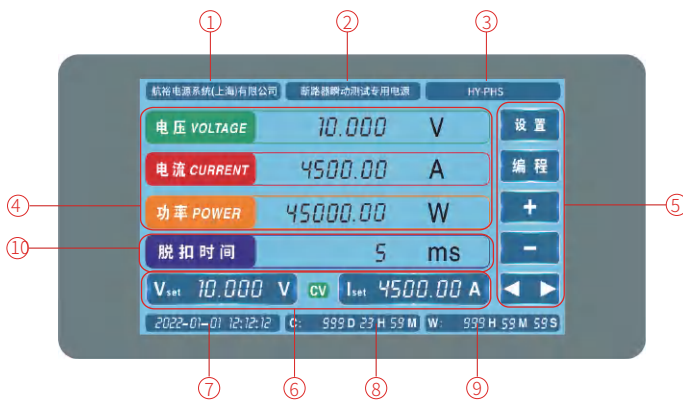


- ① Power input circuit breaker
- ② LCD display (4 inches, touch screen)
- ③ Numeric input keyboard
- ④ Voltage/current/power setting key
- ⑤ Shift Reset key
- ⑥ Status indicator light
- ⑦ Case handle
- ⑧ multi-stage shuttle adjustment knob (inner ring fine adjustment/outer ring coarse adjustment)
- ⑨ Lock、Enter、Esc、Local、Reset、Output ON/OFF
- ⑩ 19-inch standard rack mounting holes



- ① AC input terminal
- ② Output copper bar
- ③ DC output terminal protection cover
- ④ Heat dissipation outlet
- ⑤ RS-485 & RS-232 communication interface
- ⑥ Digital I/O communication interface
- ⑦ USB communication interface (optional)
- ⑧ Distal end compensation measuring terminal
- ⑨ Select the purchased communication interface (choose one of the three)  
LAN&CAN communication interface  
GPIB communication interface  
Analog programming and monitoring interface

## Display Interface



- ① Manufacturer's name
- ② Product name
- ③ Product series
- ④ Voltage/current/power read back display area
- ⑤ Function setting area
- ⑥ Voltage/current setting & CV/CC status
- ⑦ Current time
- ⑧ Cumulative running time
- ⑨ This time running time
- ⑩ Tripping time measurement display function



## Power Semiconductor Customer

 Changchun National Science	 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

## Enterprise In The Field Of Automotive Electronics

 CATARC	 CAERI	 BMW	 China FAW Group Corporation	 Hong Qi Automobile	 SAIC Motor	 Saic Volkswagen
 Tesla Inc.	 Weilai	 Xiaomi Automobile	 BYD	 Valeo	 polary	 Lantu Automobile
 GEELY Automobile	 Huichuan	 HAOMO.AI	 Shanghai Tongmin	 Ningde Age	 Human Horizons	 Hezhong New Energy

## High-Tech R&D Enterprise

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



Official wechat:hypower-cn



## Contact us

---

Hangyu Power System (Shanghai) Co., Ltd.

Mobile/Whatsapp:+8613801800699

Fax:+86-21-67285228-8009

Email:sales@hangyupower.com

neo@hangyupower.com

Address: Block B, Building 11, No. 1698 Minyi Road, Songjiang District, Shanghai

Web:www.hangyupower.com

©Hangyu Power System, 2024

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:

