



Hangyu Power System (Shanghai) Co., Ltd.

## HY-PMHSU Series

Programmable And Multifunctional High-Speed DC Power Supply

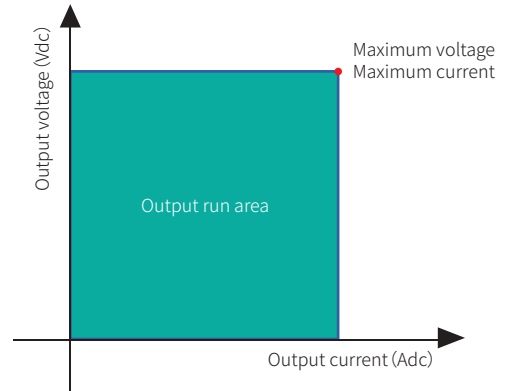
Military Quality Power Supply Expert



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



High performance, High precision, High power density



This series of power supply is specially used for low voltage electrical apparatus test, including instantaneous test, reliability test, temperature rise test, durability test, current endurance test and action characteristic test.

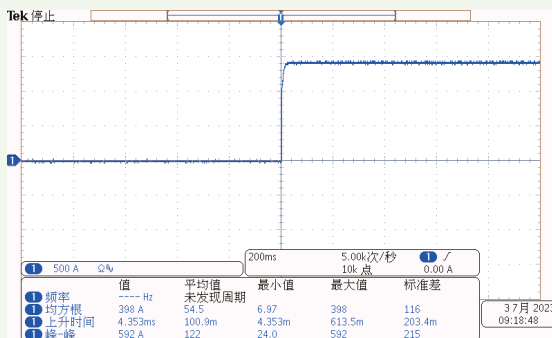
## Product Features

- Meet the GB/T 14048.2 time constant 10ms test requirements
- Output voltage: 5V, 10V, 20V optional
- The maximum output current of a single machine is 1500A
- Can be multiple parallel, the maximum current up to 75kA
- Input standard PFC, power factor up to 0.99
- 16-bit D/A high precision converter, accurate output
- 20-bit A/D high precision converter, more accurate read back

## Application Field

- Circuit breaker trip test
- Fuse fuse test
- Other low voltage electrical instantaneous test
- Current cycle shock test
- Reliability test
- Temperature rise test
- Rated connection
- Short circuit connection
- Life test
- Action characteristic test

## Instantaneous 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 the testing problems of low-voltage electrical appliances 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 instantaneous test current rise response time must be less than 10ms test conditions, current requirement of 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 test of circuit breakers more accurate and convenient.

The instantaneous characteristic test is one of the main experimental items to detect the action characteristics of the instantaneous overcurrent tripping device of the 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 to test whether the instantaneous overcurrent tripping device action 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 tripping device 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	Choose And Buy Function	Choose And Buy 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 Custom features that users choose to purchase				- T1 : Operating temperature -10°C to 50°C - T2 : Operating temperature -20°C to 50°C - CF :User defined features (please specify when ordering)

Communication Protocol	Standard Communication Interface	Optional Communication Interface
Modbus SCPI	RS-485 RS-232 Digital I/O	- LAN :Ethernet communicationinterface - 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-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 Model 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 Model 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 Technical Parameters

## 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 220V ± 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 380V ± 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 380V ± 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 220V ± 15%, constant load)				0.1% of the rated output voltage (AC input 380V ± 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 (≤60V)						
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	0.00001V ( ≤10V ),0.0001V ( ≤100V )						
Current Read Back Resolution	0.00001A ( ≤10A ), 0.0001A ( ≤100A ), 0.001A ( 100A< I ≤1000A )						
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 380V ± 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 380V ± 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 (≤60V)						
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	0.00001V ( ≤10V ),0.0001V ( ≤100V )						
Current Read Back Resolution	0.00001A ( ≤10A ) , 0.0001A ( ≤100A ) , 0.001A ( 100A< I ≤1000A )						
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

## 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	Beyond the limit output immediately off
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
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 Sea Level	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 adjustment knob (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 wire, 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)

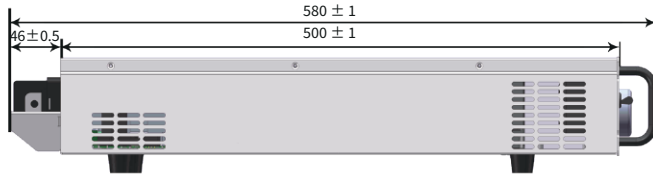
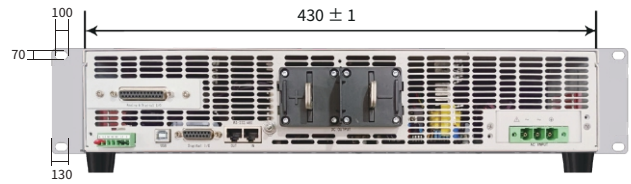
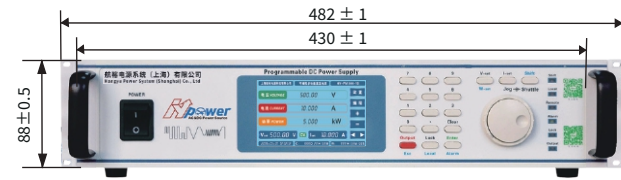
## Size And Weight

Size	2U model: 430(W) * 500(D) * 88(H) mm 3U model: 450(W) * 660(D) * 133(H) mm
Weight	About 15kg/2U;About 55kg/3U
Colour	RAL 7035

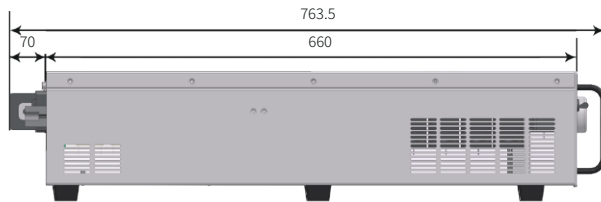
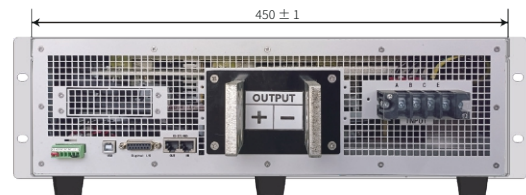
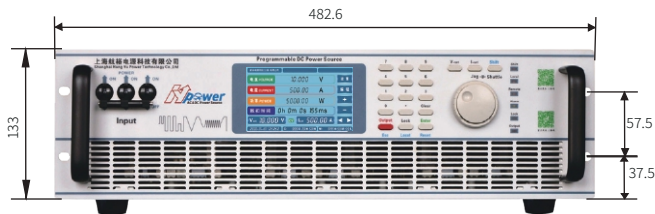


# HY-PMHSU Series Product Appearance

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

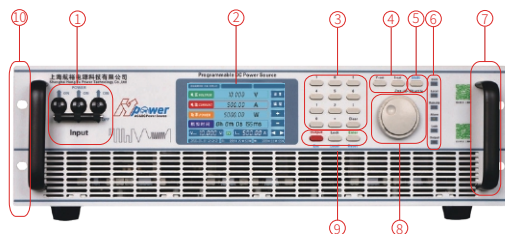


3U Model size 482.6(W) \* 660(D) \* 133(H) mm

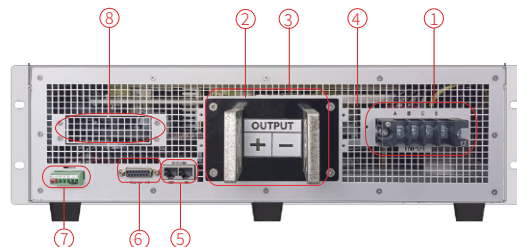


# HY-PMHSU Series Control Panel And Display

## Control Panel

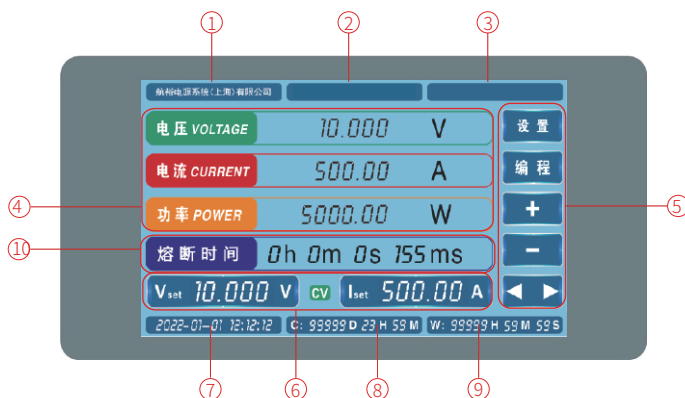


- ① Power input circuit breaker
- ② LCD display (4-inch, touch screen)
- ③ Number input keyboard
- ④ Voltage/current setting key
- ⑤ Shift Function reset key
- ⑥ Status indicator light
- ⑦ Chassis handle
- ⑧ Multi-stage adjustment knob (inner circle fine adjustment/outer circle coarse adjustment)
- ⑨ Lock, Enter, Esc, Local, Reset, Output ON/OFF
- ⑩ 19 inch standard rack mounting holes



- ① AC input terminal
- ② Output copper bar
- ③ Output guard cover
- ④ Heat dissipation air outlet
- ⑤ RS-485 & RS-232 communication interface
- ⑥ Digital I/O communication interface
- ⑦ Distal compensation measuring terminal
- ⑧ Choose to buy communication interface (Choose one of three)  
 LAN & CAN communication interface  
 GPIB communication interface  
 Analog quantity 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 Setpoints&CV/CC Status
- ⑦ Current time
- ⑧ Accumulated running time
- ⑨ This run time
- ⑩ Release time measurement display function





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

HY-PMHSU Series Product Manual, Version 08.12, June 2025

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: