AC&DC Power Source

Hangyu Power System (Shanghai) Co., Ltd.

HY-UHSSU Series

Ultra-High Stability Magnet Power Supply

Military Quality Power Supply Expert

HY-UHSSU Series Ultra-High Stability Magnet Power Supply

Super high stability, Low ripple, High precision

The HY-UHSSU series ultra-high stability magnet power supply has the characteristics of ultra-high stability, low ripple, and high precision.It has voltage and current control modes, continuous stable power supply, and builds an ultra high stability magnetic field.It can assist in clear MRI imaging, highly restore medical images, and provide professional and accurate testing solutions for medical applications and high-energy physics.

Product Features

- Current range: 0.1A-50kA optional
- Voltage range: 0-1500V optional
- Power range: 1kW-1MW optional
- Time stability: 5ppm, 10ppm, 20ppm, 50ppm, 100ppm, Long term stability optional
- 16-bit D/A high precision converter, accurate output (Choose to purchase 18-bit, 20-bit)
- 20-bit A/D high precision converter, more accurate read back
- Temperature stability: varies according to "air-cooled" and "water-cooled"
- Unipolar, bipolar (polarity switchable), bipolar four quadrants

Application Field

This power supply is mainly used in the field of radiation medicine and high-energy physics particle research. In order to achieve sufficient stability of the magnetic field generated by the magnet coil, the current stability and accuracy of the magnet power supply that provides power to the coil are particularly important.

- For nuclear magnetic resonance (NMR) clear imaging high stable power supply
- High/low temperature superconducting magnet coil test
- Conventional magnet coil test
- High energy physics research
- Scientific Research

Actual Test Waveform

Green is the input signal
Yellow is the actual output
The synchronization delay of input and output signal initiation is ⩽100µs

The actual measured synchronization delay was 36µs

Green is the input signal
Yellow is the actual output
The synchronous delay for turning off the input and output signals is ⩽200µs.

The actual measured synchronization delay was 195µs

HY-UHSSU Series Product Selection Table

Product Model Naming Rules, Communication, Selection Configuration

Product Model Naming Rules

HY - UHSSU - L 600 - 25 - 10P

- HY - UHSSU: Series name
- L: Circuit mode optional:
  - L: Single polarity linear circuit
  - S: Single polarity switching circuit
  - BP: Bipolar polarity linear circuit
- 600: Output voltage 0-600V
- 25: Output current 0-25A
- 10P: Stability optional:
  - 05P : 5ppm
  - 10P : 10ppm
  - 20P : 20ppm
  - 50P : 50ppm
  - 100P: 100ppm

Selection examples:

Product model: HY-UHSSU-L 600-25-10P

Use unipolar linear circuit technology, output voltage 0-600V, output current 0-25A,

Choose to purchase 10ppm time stability.

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)

Choose And Buy Function

- T1 : Operating temperature -10°C to 50°C
- T2 : Operating temperature -20°C to 50°C
- CF :User defined features (please specify when ordering)

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

HY-UHSSU Series Product Model Selection And Parameters

Special specifications outside the voltage/current/power range in the selection table can be customized.

1kW Series Power Supply Model Selection

Models	Output Voltage	Output Current	Output Power
10-100	10V	100A	1kW
15-66.7	15V	66.7A	1kW
20-50	20V	50A	1kW
30-34	30V	34A	1kW
40-25	40V	25A	1kW
60-16.7	60V	16.7A	1kW
80-12.5	80V	12.5A	1kW
100-10	100V	10A	1kW
150-6.7	150V	6.7A	1kW
200-5	200V	5A	1kW

Models	Output Voltage	Output Current	Output Power
250-4	250V	4A	1kW
300-3.4	300V	3.4A	1kW
350-3	350V	3A	1kW
400-2.5	400V	2.5A	1kW
500-2	500V	2A	1kW
600-1.7	600V	1.7A	1kW
800-1.3	800V	1.3A	1kW
1000-1	1000V	1A	1kW
1200-0.9	1200V	0.9A	1kW
1500-0.7	1500V	0.7A	1kW

HY-UHSSU Series Product Selection Table

1.6kW Series Power Supply Model Selection

Models	Output Voltage	Output Current	Output Power
10-160	10V	160A	1.6kW
15-106.7	15V	106.7A	1.6kW
20-80	20V	80A	1.6kW
30-54	30V	54A	1.6kW
40-40	40V	40A	1.6kW
60-26.7	60V	26.7A	1.6kW
80-20	80V	20A	1.6kW
100-16	100V	16A	1.6kW
150-10.7	150V	10.7A	1.6kW
200-8	200V	8A	1.6kW

Models	Output Voltage	Output Current	Output Power
250-6.4	250V	6.4A	1.6kW
300-5.4	300V	5.4A	1.6kW
350-4.6	350V	4.6A	1.6kW
400-4	400V	4A	1.6kW
500-3.2	500V	3.2A	1.6kW
600-2.7	600V	2.7A	1.6kW
800-2	800V	2A	1.6kW
1000-1.6	1000V	1.6A	1.6kW
1200-1.4	1200V	1.4A	1.6kW
1500-1.1	1500V	1.1A	1.6kW

2.5kW Series Power Supply Model Selection

Models	Output Voltage	Output Current	Output Power
10-250	10V	250A	2.5kW
15-166.7	15V	166.7A	2.5kW
20-125	20V	125A	2.5kW
30-84	30V	84A	2.5kW
40-62.5	40V	62.5A	2.5kW
60-41.7	60V	41.7A	2.5kW
80-32	80V	32A	2.5kW
100-25	100V	25A	2.5kW
150-16.7	150V	16.7A	2.5kW
200-12.5	200V	12.5A	2.5kW

Models	Output Voltage	Output Current	Output Power
250-10	250V	10A	2.5kW
300-8.4	300V	8.4A	2.5kW
350-7	350V	7A	2.5kW
400-6.3	400V	6.3A	2.5kW
500-5	500V	5A	2.5kW
600-4.2	600V	4.2A	2.5kW
800-3.2	800V	3.2A	2.5kW
1000-2.5	1000V	2.5A	2.5kW
1200-2.1	1200V	2.1A	2.5kW
1500-1.7	1500V	1.7A	2.5kW

3.6kW Series Power Supply Model Selection

Models	Output Voltage	Output Current	Output Power
10-360	10V	360A	3.6kW
15-240	15V	240A	3.6kW
20-180	20V	180A	3.6kW
30-120	30V	120A	3.6kW
40-90	40V	90A	3.6kW
60-60	60V	60A	3.6kW
80-45	80V	45A	3.6kW
100-36	100V	36A	3.6kW
150-24	150V	24A	3.6kW
200-18	200V	18A	3.6kW

Models	Output Voltage	Output Current	Output Power
250-14.4	250V	14.4A	3.6kW
300-12	300V	12A	3.6kW
350-10.3	350V	10.3A	3.6kW
400-9	400V	9A	3.6kW
500-7.2	500V	7.2A	3.6kW
600-6	600V	6A	3.6kW
800-4.5	800V	4.5A	3.6kW
1000-3.6	1000V	3.6A	3.6kW
1200-3	1200V	3A	3.6kW
1500-2.4	1500V	2.4A	3.6kW

HY-UHSSU Series Product Selection Table

5kW Series Power Supply Model Selection

Models	Output Voltage	Output Current	Output Power
10-500	10V	500A	5kW
15-333.4	15V	333.4A	5kW
20-250	20V	250A	5kW
30-166.7	30V	166.7A	5kW
40-125	40V	125A	5kW
60-84	60V	84A	5kW
80-62.5	80V	62.5A	5kW
100-50	100V	50A	5kW
150-33.4	150V	33.4A	5kW
200-25	200V	25A	5kW

Models	Output Voltage	Output Current	Output Power
250-20	250V	20A	5kW
300-16.7	300V	16.7A	5kW
350-14.4	350V	14.4A	5kW
400-12.5	400V	12.5A	5kW
500-10	500V	10A	5kW
600-8.4	600V	8.4A	5kW
800-6.3	800V	6.3A	5kW
1000-5	1000V	5A	5kW
1200-4.2	1200V	4.2A	5kW
1500-3.4	1500V	3.4A	5kW

10kW Series Power Supply Model Selection

Models	Output Voltage	Output Current	Output Power
10-1000	10V	1000A	10kW
15-666.7	15V	666.7A	10kW
20-500	20V	500A	10kW
30-334	30V	333A	10kW
40-250	40V	250A	10kW
60-167	60V	167A	10kW
80-125	80V	125A	10kW
100-100	100V	100A	10kW
150-67	150V	67A	10kW

Models	Output Voltage	Output Current	Output Power
200-50	200V	50A	10kW
250-40	250V	40A	10kW
300-34	300V	34A	10kW
350-28.6	350V	28.6A	10kW
400-25	400V	25A	10kW
500-20	500V	20A	10kW
600-16.7	600V	16.7A	10kW
800-12.5	800V	12.5A	10kW
1000-10	1000V	10A	10kW

15kW Series Power Supply Model Selection

Models	Output Voltage	Output Current	Output Power
10-1500	10V	1500A	15kW
15-1000	15V	1000A	15kW
20-750	20V	750A	15kW
30-500	30V	500A	15kW
40-375	40V	375A	15kW
60-250	60V	250A	15kW
80-187.5	80V	187.5A	15kW
100-150	100V	150A	15kW
150-100	150V	100A	15kW

Models	Output Voltage	Output Current	Output Power
200-75	200V	75A	15kW
250-60	250V	60A	15kW
300-50	300V	50A	15kW
350-44	350V	44A	15kW
400-37.5	400V	37.5A	15kW
500-30	500V	30A	15kW
600-25	600V	25A	15kW
800-18.8	800V	18.8A	15kW
1000-15	1000V	15A	15kW

HY-UHSSU Series Technical Parameters

Stability And Temperature Coefficient

Stability (Rated Output Current)	5ppm	10ppm	20ppm	50ppm	100ppm
Temperature Coefficient (Rated Output Current)	2.5ppm/℃	5ppm/℃	10ppm/℃	25ppm/℃	50ppm/℃

Note 1: 8-hour stability, after being powered on for 30 minutes at a certain input voltage and load ambient temperature
Note 2: multiple options for stability and temperature coefficient

Programming And Readback Accuracy & Resolution

Voltage Output Programming Accuracy	0.05% of the rated output voltage
Current Output Programming Accuracy	0.05% of output current + 0.05% of rated output current
Voltage Setting Resolution	0.001V (≤60V) ,0.01V (≤600V) , 0.1V (>600V)
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	0.05% of output current + 0.05% of rated output current
Voltage Read Back Resolution	0.00001V (≤10V),0.0001V (≤100V), 0.001V (100V＜U ≤1000V), 0.01V (>1000V)
Current Read Back Resolution	0.00001A (≤10A), 0.0001A (≤100A), 0.001A (100A＜ I ≤1000A)

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 1m to weighted measurement

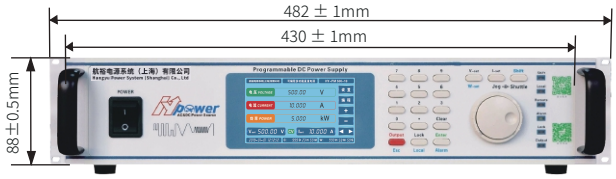
Control Panel

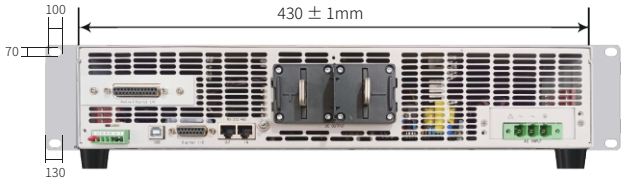
Display	4/7 inch LCD display, touch screen
Control Function	Digital key input, multi-stage adjustment knob (outer ring coarse adjustment/inner ring fine adjustment), output ON/OFF switch, Lock keyboard and touch lock, Reset Restart status indicator (Shift/Local/Remote/Alarm/Lock/Output)

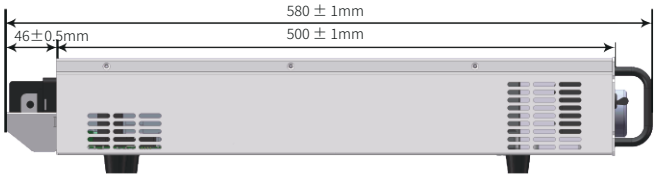
Input Power Supply

Frequency	47Hz - 63Hz
Connection Mode	Single-phase two-wire + ground wire, 220V ± 15% Three-phase three-wire + ground wire, 380V ± 15% (-3P standard configuration model)

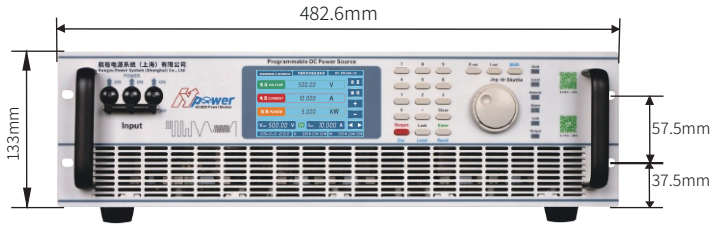
2U model 430(W) * 500(D) * 88(H) mm

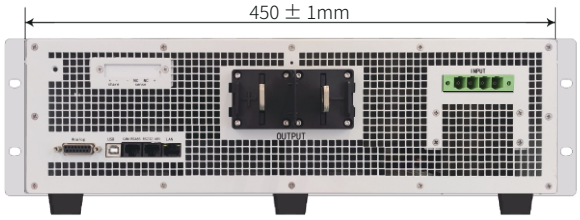


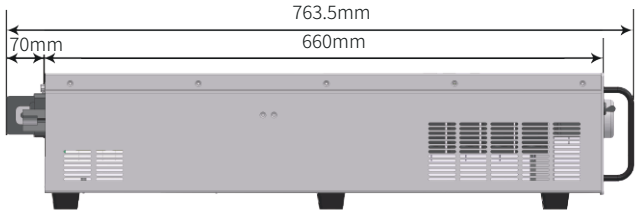




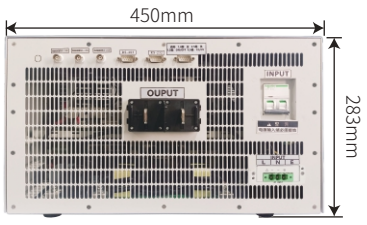
3U model 450(W) * 660(D) * 133(H) mm

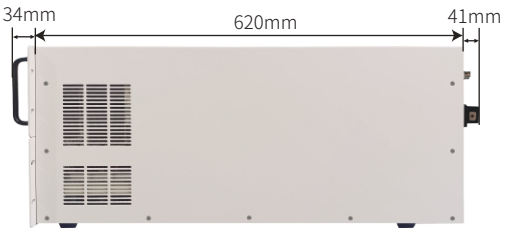






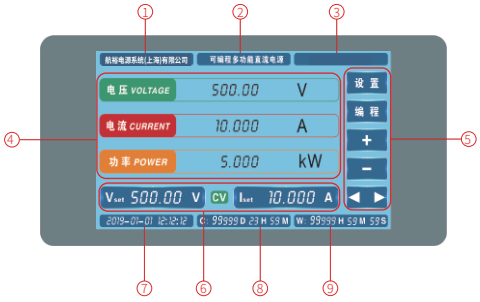
6U model 450(W)*620(D)*266(H)mm





Programmable Function

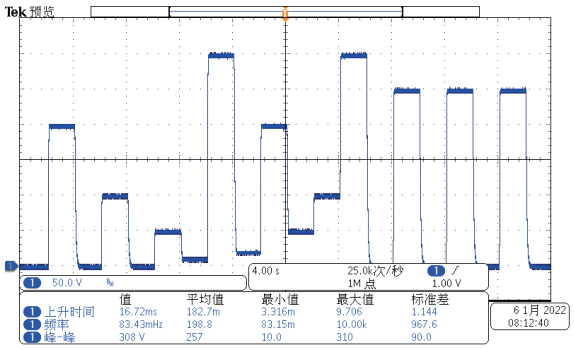
Display Interface



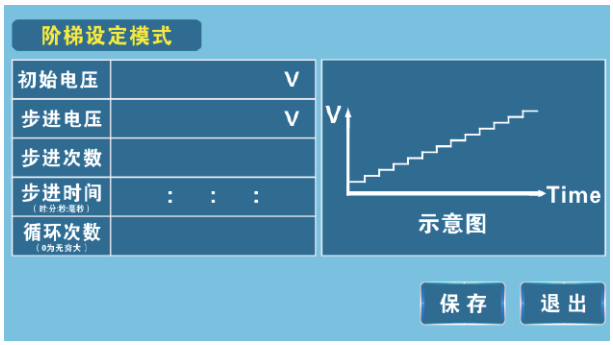
① Manufacturer's name
② Product name
③ Product series
④ Voltage/current/power read back display area
⑤ Function setting area
⑥ Voltage/Current Setpoints&CV/CC Status
⑦ Current time
⑧ Accumulated running time
⑨ This run time

Programmable Functions Are Introduced

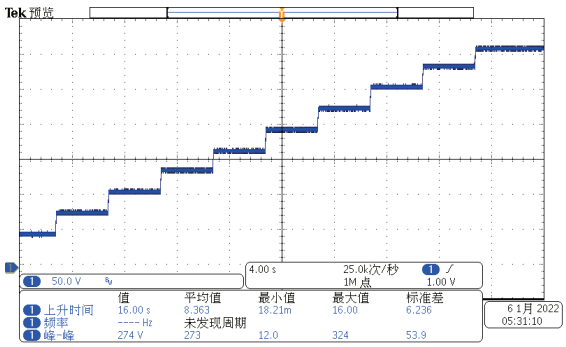
The step setting page allows you to set the required voltage, current, run time, initial step, end step, and number of cycles.



Step

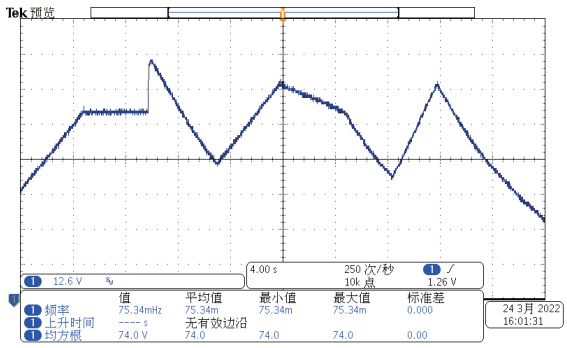


The ladder setting page can set the required initial voltage, stepping voltage, stepping times and stepping time.



Ladder

Gradient Settings page can set the required voltage, current, running time, initial step, end step



Gradient

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Authorized distributor：