AC&DC Power Source

Hangyu Power System (Shanghai) Co., Ltd.

HY-PLMSU Series

Programmable Linear AC Medium Frequency Power Source

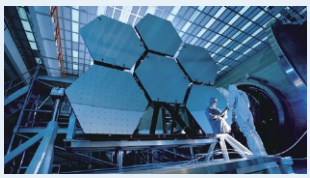
Military Quality Power Supply Expert

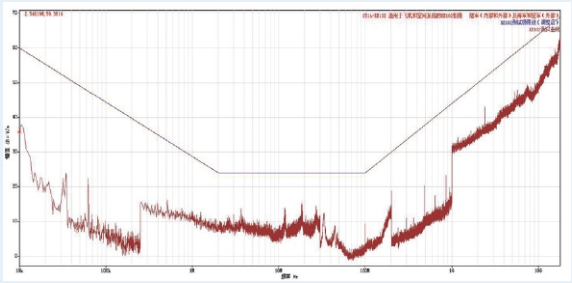
HY-PLMSU Series Programmable Linear AC Medium Frequency Power Source

High Power,High Precis ion,High Reliability

Application Field

- Aviation military
- Testing laboratory
- Electric machine
- Electronic parts
- Nuclear magnetic experiment test
- Darkroom experiment
- EMC test
- Military parts maintenance
- Military testing and verification
- Aircraft electronic test
- Maintenance station
- Hangar
- Repair and maintain the hangar





Product Features

- Output frequency range 320Hz-480Hz/300Hz-800Hz, Optional range 45Hz-5kHz
- Output capacity range 30VA-30kVA
- Output voltage standardL-N 0-138Vrms Choose and buy 0-180Vrms/276Vrms/1kVrms
- Number of output phases Single-phase/three phase
- Three phase voltage independent adjustable, phase difference 0-359.99° adjustable
- Linear power technology, low ripple, low noise, ultra-low distortion rate
- Support front panel programming, without upper computer software control
- The voltage rise and fall slopes are adjustable
- Power output soft start function
- 16-bit D/A high precision converter for accurate output
- 16-bit A/D high precision converter, more accurate read back
- Multiple protection functions OVP, OCP, and OTP
- 19 inch standard rack size or floor type cabinet
- 7-inch ultra large LCD display screen
- Touch screen operation & digital key input
- Multi-stage adjustment knob
- The power input is controlled by circuit breaker, which is more secure
- Output the ON/OFF button
- Fan intelligent speed control design, reduce noise
- Front/side air in, rear air out, saving heat dissipation space
- Support modbus protocol
- Standard interface：RS-485&RS-232
- Choose buy interface：LAN&CAN
  GPIB
  Analog quantity programming and monitoring (Isolation type)

HY-PLMSU Series Product Selection Table

Product Model Naming Rules

Product Series	Input Phase Number	Output Phase Number	Output Capacity		Choose And Buy Function
HY-PLMSU	1	3	003	-	CF
Series name	1: indicates the input phase 3: Input three phases	1: Output single phase 3: Output three phase	Output capacity 3KVA		The short for Choose And Buy Function, see Choose And Buy Function

Selection example:

Product model: HY-PLMSU 13003-CF

Input single-phase, output three-phase, output capacity 3kVA,Custom features that users choose to purchase

Choose And Buy Function

- T2	Operating temperature -20°C to 45°C
- CF	User defined features (please specify when ordering

PLMSU

02

In the selection table, special specifications outside the voltage/frequency/output capacity range are accepted for customization

Product Model	Output Capacity	Input	Output	Product Model	Output Capacity	Input	Output	Output Voltage	Output Frequency
HY-PLMSU 1101L	100VA	Single phase	Single phase	HY-PLMSU 13L03	30VA	Single phase	Three phase	Standard: L-N 0-115Vrms L-N 0-138Vrms Choose and buy: L-N 0-180Vrms L-N 0-230Vrms L-N 0-276Vrms L-N 0-1kVrms Ships and warships: 220V±10% 230V±10% Boeing 787	Standard: 400Hz 320Hz-480Hz Choose and buy: 45Hz-5000Hz
HY-PLMSU 1103L	300VA			HY-PLMSU 13L06	60VA				
HY-PLMSU 1105L	500VA			HY-PLMSU 13L09	90VA				
HY-PLMSU 11001	1kVA			HY-PLMSU 1303L	300VA				
HY-PLMSU 11002	2kVA			HY-PLMSU 1306L	600VA				
HY-PLMSU 11003	3kVA			HY-PLMSU 1309L	900VA				
HY-PLMSU 31004	4kVA	Three phase		HY-PLMSU 1315L	1.5kVA				
HY-PLMSU 31005	5kVA			HY-PLMSU 13003	3kVA				
HY-PLMSU 31010	10kVA			HY-PLMSU 1345L	4.5kVA				
				HY-PLMSU 3345L	4.5kVA	Three phase			
				HY-PLMSU 33006	6kVA				
				HY-PLMSUS 33010	10kVA				
				HY-PLMSU 33015	15kVA				
				HY-PLMSU 33018	18kVA				
				HY-PLMSU 33030	30kVA				

*When the equipment runs continuously for more than 30 minutes at the specified operating temperature, all technical indicators can be guaranteed.

Single Phase Output

	Single In Single Out						Three In Single Out		
Product Model	PLMSU 1101L	PLMSU 1103L	PLMSU 1105L	PLMSU 11001	PLMSU 11002	PLMSU 11003	PLMSU 31004	PLMSU 31005	PLMSU 31010
Power	100VA	300VA	500VA	1kVA	2kVA	3kVA	4kVA	5kVA	10kVA
Model size	2U	4U	4U	4U	10U	15U	18U	24U	30U
	*1) 2U and 4U, standard 19-inch rack mount, or desktop (fixed foot mat); 2) 10U, standard 19-inch rack type, or floor type (with movable universal casters and brakes); 3) 15U, 18U and above non-standard cabinets, floor type cabinets, with movable universal casters and brakes.								
Circuit mode	Linear amplification system								
Communication mode	Standard: RS-485 & RS-232 Options: LAN, CAN, GPIB, Analog quantity programming and monitoring (Isolation type)								

Input

Connection mode	Single-phase two-wire + Ground wire(LN+PE)	Three-phase three-wire + ground wire & three-phase four-wire + ground wire (ABC+PE/ABCN+PE)
Input phase	Single phase 1Φ	Three-phase 3Φ
Input waveform	Sinusoidal wave	Sinusoidal wave
Input voltage	220Vrms±10%	380Vrms±10%
Input frequency	47Hz-63Hz	47Hz-63Hz

Output

Output phase	Single phase 1Φ								
Rated settings voltage	L-N 0-138Vrms Continuously adjustable Optional L-N 0-180Vrms; L-N 0-230Vrms; L-N 0-276Vrms; Max1000Vrms Continuously adjustable								
Rated current	0.7A	2.2A	3.7A	7.3A	14.5A	21.8A	29A	36.3A	72.5A
	* Rated current calculated based on 138V voltage. If other voltages are selected, rated current is calculated based on selected voltages.								
Maximum current	0.9A	2.7A	4.4A	8.7A	17.4A	26.1A	34.8A	43.5A	87A
	* Calculate the maximum current based on the 138V voltage. If you choose other voltages, calculate the maximum current based on the selected voltage.								
Frequency	320 Hz to 480 Hz adjustable continuously Optional 45 Hz ~ 500 Hz, 45 Hz ~ 800 Hz, 300 Hz ~ 500 Hz, 300 Hz ~ 800 Hz, 300 Hz ~ 1200 Hz, 300 Hz ~ 1500 Hz, 300 Hz ~ 2000 Hz, 500 Hz-5KHz								

Property

Input adjustment rate	⩽0.5%F.S. (Resistance test)
Load adjustment rate	⩽0.5%F.S. (resistance test, 45Hz-500Hz output); ⩽1%F.S. (resistance test, > 500Hz output)
Waveform distortion (THD)	Sinusoidal wave, THD⩽0.5% (resistance test, 45-500Hz output);THD⩽1% (resistance test, > 500Hz output) * According to 1000Hz, * Test when the output voltage is more than 50% of the rated voltage
Frequency stability	⩽0.02%F.S.
Voltage stability	⩽0.5%F.S.
Voltage crest coefficient	1.414±0.05
Noise	⩽65dB(A), use 1m to weigh the measurement

HY-PLMSU Series Technical Parameter

Programming And Readback Accuracy & Resolution

Settings	Voltage output programming accuracy	±0.3%F.S.
	Frequency output programming accuracy	±0.01%F.S.
	Voltage setting resolution	0.01V
	Frequency setting resolution	0.01Hz
Read back	Voltage output read back accuracy	±0.3%F.S.
	Current output read back accuracy	±0.3%F.S.
	Frequency output read back accuracy	±0.01%F.S.
	Voltage read back resolution	0.01V
	Current read back resolution	0.0001A (≤6A) ; 0.001A (≤60A) ; 0.01A＜600A (16-bit Resolution)
	Frequency read back resolution	0.01Hz

Protection Function

Protection function	Overvoltage, overcurrent, internal overheating, short circuit
Overload capacity	125% current 15s, 150% current 5s, 200% current 2s, 300% current Stop output immediately
Memory function	Parameters of the last run
Preset function	Adjust the output voltage and frequency online

Environmental Condition

Environment	Indoor use; Installation overvoltage class: II; Pollution level: P2; Class II equipment
Operating ambient temperature	0°C to 45°C; Choose from -20°C to 45°C
Storage ambient temperature	-20°C to 65°C
Working ambient humidity	20%-90%RH, no condensation, continuous operation
Storage environment humidity	10%-95%RH, no condensation
Altitude	Above 2000 meters above sea level, the power is reduced by 2% per 100 meters, or the maximum working ambient temperature is reduced by 1°C per 100 meters;When not in operation, it can reach an altitude of 12,000 meters
Cooling condition	Forced air cooling, intelligent speed regulating fan, front/side air inlet, rear air outlet
Transport condition	Road transport

Control Panel

Display	4/7 inches, LCD LCD display, touch screen
Display item	Voltage (set value & measured value), current measurement value, frequency set value , working time, cumulative working time, current time and date
Control function	Output ON/OFF/Lock keyboard and touch lock /Reset Restart/reset/setting/status indicator
Mode of operation	Key input/LCD input/Multi-stage adjustment knob (outer ring coarse adjustment/inner ring fine adjustment)
Control mode	Local control/remote control
Programming function	Step/ladder/gradient

Single Phase Input,Three Phase Output

Product Model	PLMSU 13L03	PLMSU 13L06	PLMSU 13L09	PLMSU 1303L	PLMSU 1306L	PLMSU 1309L	PLMSU 1315L	PLMSU 13003	PLMSU 1345L
Power	30VA	60VA	90VA	300VA	600VA	900VA	1.5KVA	13KVA	4.5KVA
Model size	2U	2U	2U	4U	4U	10U	10U	18U	24U
	*1) 2U and 4U, standard 19-inch rack mount, or desktop (fixed foot mat); 2) 10U, standard 19-inch rack type, or floor type (with movable universal casters and brakes); 3) 18U and above non-standard cabinets, floor type cabinets, with movable universal casters and brakes.								
Circuit mode	Linear amplification system								
Communication mode	Standard: RS-485 & RS-232 Options: LAN, CAN, GPIB, Analog quantity programming and monitoring (Isolation type)								

Input

Connection mode	Single-phase two-wire + Ground wire(LN+PE)
Input phase	Single phase 1Φ
Input waveform	Sinusoidal wave
Input voltage	220Vrms±10%
Input frequency	47Hz-63Hz

Output

Output phase	Three phases 3Φ								
Rated settings voltage	L-N 0-138Vrms Continuously adjustable Optional L-N 0-180Vrms; L-N 0-230Vrms; L-N 0-276Vrms; Max1000Vrms Continuously adjustable								
Rated current	0.07A	0.15A	0.22A	0.73A	1.45A	2.2A	3.63A	7.25A	10.9A
	* Rated current calculated based on 138V voltage. If other voltages are selected, rated current is calculated based on selected voltages.								
Maximum current	0.09A	0.18A	0.26A	0.88A	1.74A	2.6A	4.36A	8.7A	13.1A
	* Calculate the maximum current based on the 138V voltage. If you choose other voltages, calculate the maximum current based on the selected voltage.								
Frequency	320 Hz to 480 Hz adjustable continuously Optional 45 Hz ~ 500 Hz, 45 Hz ~ 800 Hz, 300 Hz ~ 500 Hz, 300 Hz ~ 800 Hz, 300 Hz ~ 1200 Hz, 300 Hz ~ 1500 Hz, 300 Hz ~ 2000 Hz, 500 Hz-5KHz								

Property

Input adjustment rate	⩽0.5%F.S. (Resistance test)
Load adjustment rate	⩽0.5%F.S. (resistance test, 45Hz-500Hz output); ⩽1%F.S. (resistance test, > 500Hz output)
Waveform distortion (THD)	Sinusoidal wave, THD⩽0.5% (resistance test, 45-500Hz output);THD⩽1% (resistance test, > 500Hz output) * According to 1000Hz, * Test when the output voltage is more than 50% of the rated voltage
Frequency stability	⩽0.02%
Voltage stability	⩽0.5%
Voltage crest system	1.414±0.05
Voltage unbalance	Three-phase output ⩽0.5Vrms (no load or balanced load)
Phase difference	Load three-phase balance or no-load ±2°
Noise	⩽65dB(A), use 1m to weigh the measurement
Three-phase voltage /phase difference	Three-phase voltage independent adjustable, phase difference 0-359.99° adjustable

HY-PLMSU Series Technical Parameter

Programming And Readback Accuracy & Resolution

Settings	Voltage output programming accuracy	±0.3%F.S.
	Frequency output programming accuracy	±0.01%F.S.
	Voltage setting resolution	0.01V
	Frequency setting resolution	0.01Hz
Read back	Voltage output read back accuracy	±0.3%F.S.
	Current output read back accuracy	±0.3%F.S.
	Frequency output read back accuracy	±0.01%F.S.
	Voltage read back resolution	0.01V
	Current read back resolution	0.0001A (≤6A) ;0.001A (≤60A) ;0.01A＜600A (16-bit Resolution)
	Frequency read back resolution	0.01Hz

Protection Function

Protection function	Overvoltage, overcurrent, internal overheating, short circuit
Overload capacity	125% current 15s, 150% current 5s, 200% current 2s, 300% current Stop output immediately
Memory function	Parameters of the last run
Preset function	Adjust the output voltage and frequency online

Environmental Condition

Environment	Indoor use; Installation overvoltage class: II; Pollution level: P2; Class II equipment
Operating ambient temperature	0°C to 45°C; Choose from -20°C to 45°C
Storage ambient temperature	-20°C to 65°C
Working ambient humidity	20%-90%RH, no condensation, continuous operation
Storage environment humidity	10%-95%RH, no condensation
Altitude	Above 2000 meters above sea level, the power is reduced by 2% per 100 meters, or the maximum working ambient temperature is reduced by 1°C per 100 meters;When not in operation, it can reach an altitude of 12,000 meters
Cooling condition	Forced air cooling, intelligent speed regulating fan, front/side air inlet, rear air outlet
Transport condition	Road transport

Control Panel

Display	4/7 inches, LCD LCD display, touch screen
Display item	Phase voltage/line voltage (set value & measured value), current measured value , frequency set value, working time, cumulative working time, current time and date
Control function	Output ON/OFF/Lock keyboard and touch lock /Reset Restart/reset/setting/status indicator
Mode of operation	Key input/LCD input/Multi-stage adjustment knob (outer ring coarse adjustment/inner ring fine adjustment)
Control mode	Local control/remote control
Programming function	Step/ladder/gradient

Three Phase Input,Three Phase Output

Product model	PLMSU 3345L	PLMSU 33006	PLMSU 33010	PLMSU 33015	PLMSU 33018	PLMSU 33030
Power	4.5KVA	6KVA	10KVA	15KVA	18KVA	30KVA
Model size	24U	30U	Non-standard cabinet	Non-standard cabinet	Non-standard cabinet	Non-standard cabinet
	*1) 18U and above non-standard cabinets, floor type cabinets, with movable universal casters and brakes.					
Circuit mode	Linear amplification system					
Communication mode	Standard: RS-485 & RS-232 Options: LAN, CAN, GPIB, Analog quantity programming and monitoring (Isolation type)					

Input

Connection mode	Three-phase three-wire + Ground wire & three-phase four-wire + ground wire (ABC+PE/ABCN+PE)
Input phase	Three-phase 3Φ
Input waveform	Sinusoidal wave
Input voltage	380Vrms±10%
Input frequency	47Hz-63Hz

Output

Output phase	Three phases 3Φ					
Rated settings voltage	L-N 0-138Vrms Continuously adjustable Optional L-N 0-180Vrms; L-N 0-230Vrms; L-N 0-276Vrms; Max1000Vrms Continuously adjustable					
Rated current	10.9A	14.5A	24.2A	36.3A	43.5A	72.5A
	* Rated current calculated based on 138V voltage. If other voltages are selected, rated current is calculated based on selected voltages.					
Maximum current	13.1A	17.4A	29A	43.5A	52.2A	87A
	* Calculate the maximum current based on the 138V voltage. If you choose other voltages, calculate the maximum current based on the selected voltage.					
Frequency	320 Hz to 480 Hz adjustable continuously Optional 45 Hz ~ 500 Hz, 45 Hz ~ 800 Hz, 300 Hz ~ 500 Hz, 300 Hz ~ 800 Hz, 300 Hz ~ 1200 Hz, 300 Hz ~ 1500 Hz, 300 Hz ~ 2000 Hz, 500 Hz-5KHz					

Property

Input adjustment rate	⩽0.5%F.S. (Resistance test)
Load adjustment rate	⩽0.5%F.S. (resistance test, 45Hz-500Hz output); ⩽1%F.S. (resistance test, > 500Hz output)
Waveform distortion (THD)	Sinusoidal wave, THD⩽0.5% (resistance test, 45-500Hz output);THD⩽1% (resistance test, > 500Hz output) * According to 1000Hz, * Test when the output voltage is more than 50% of the rated voltage
Frequency stability	⩽0.02%
Voltage stability	⩽0.5%
Voltage crest system	1.414±0.05
Voltage unbalance	Three-phase output ⩽0.5Vrms (no load or balanced load)
Phase difference	Load three-phase balance or no-load ±2°
Noise	⩽65dB(A), use 1m to weigh the measurement
Three-phase voltage /phase difference	Three-phase voltage independent adjustable, phase difference 0-359.99° adjustable

HY-PLMSU Series Technical Parameter

Programming And Readback Accuracy & Resolution

Settings	Voltage output programming accuracy	±0.3%F.S.
	Frequency output programming accuracy	±0.01%F.S.
	Voltage setting resolution	0.01V
	Frequency setting resolution	0.01Hz
Read back	Voltage output read back accuracy	±0.3%F.S.
	Current output read back accuracy	±0.3%F.S.
	Frequency output read back accuracy	±0.01%F.S.
	Voltage read back resolution	0.01V
	Current read back resolution	0.0001A (≤6A) ; 0.001A (≤60A) ; 0.01A＜600A (16-bit Resolution)
	Frequency read back resolution	0.01Hz

Protection Function

Protection function	Overvoltage, overcurrent, internal overheating, short circuit
Overload capacity	125% current 15s, 150% current 5s, 200% current 2s, 300% current Stop output immediately
Memory function	Parameters of the last run
Preset function	Adjust the output voltage and frequency online

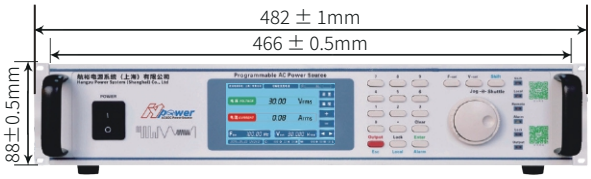
Environmental Condition

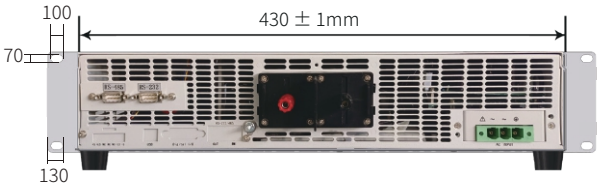
Environment	Indoor use; Installation overvoltage class: II; Pollution level: P2; Class II equipment
Operating ambient temperature	0°C to 45°C; Choose from -20°C to 45°C
Storage ambient temperature	-20°C to 65°C
Working ambient humidity	20%-90%RH, no condensation, continuous operation
Storage environment humidity	10%-95%RH, no condensation
Altitude	Above 2000 meters above sea level, the power is reduced by 2% per 100 meters, or the maximum working ambient temperature is reduced by 1°C per 100 meters;When not in operation, it can reach an altitude of 12,000 meters
Cooling condition	Forced air cooling, intelligent speed regulating fan, front/side air inlet, rear air outlet
Transport condition	Road transport

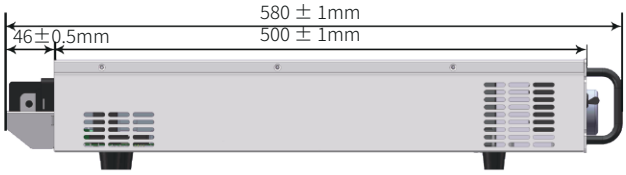
Control Panel

Display	7 inches, LCD LCD display, touch screen
Display item	Phase voltage/line voltage (set value & measured value), current measured value , frequency set value, working time, cumulative working time, current time and date
Control function	Output ON/OFF/Lock keyboard and touch lock /Reset Restart/reset/setting/status indicator
Mode of operation	Key input/LCD input/Multi-stage adjustment knob(outer ring coarse adjustment/inner ring fine adjustment)
Control mode	Local control/remote control
Programming function	Step/ladder/gradient

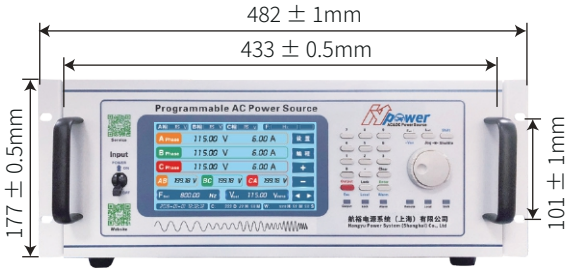
2U 430(W) * 500(D) * 88(H) mm

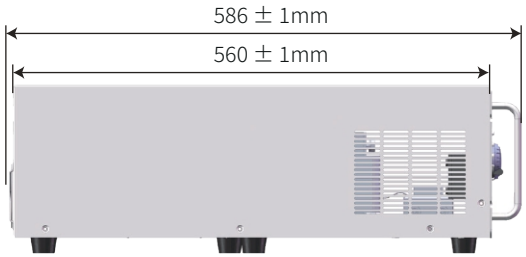




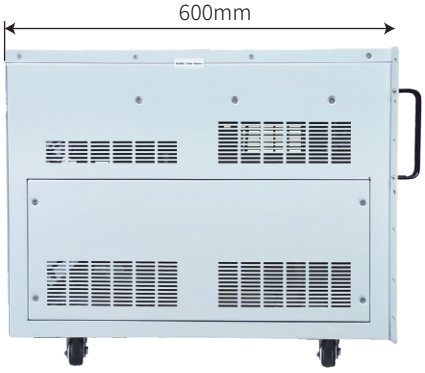


4U 433(W)*560(D)*177(H)mm





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



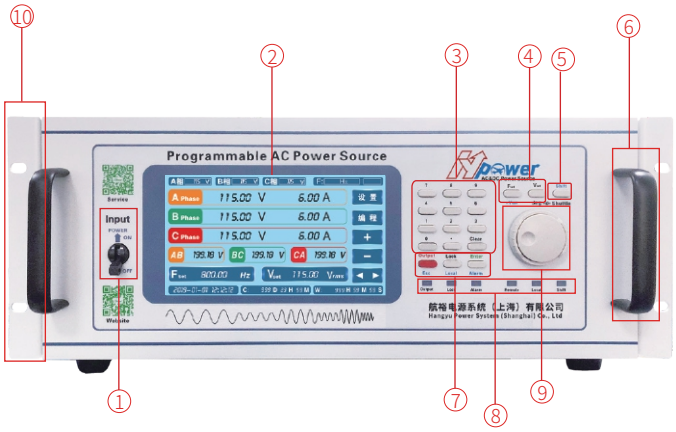
Appearance & Size

18U 600(W)*800(D)*920(H)mm

24U 600(W)*800(D)*1190(H)mm
30U 600(W)*800(D)*1453(H)mm
36U 600(W)*800(D)*1718(H)mm

Size
10

Control Panel

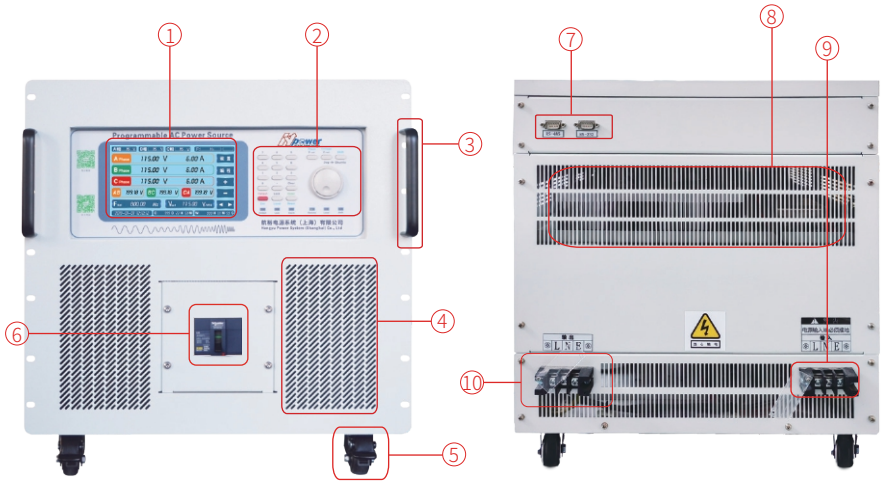


① Power input circuit breaker
② LCD display (7 inches, touch screen)
③ Numeric input keyboard
④ Frequency/voltage setting key
⑤ Shift function reuse key
⑥ Chassis handle
⑦ Lock Lock, Enter confirm, Esc exit Local Local or Reset Restarts Output ON/OFF
⑧ Status indicator light
⑨ Multi-stage shuttle adjustment knob (inner ring fine adjustment/outer ring coarseadjustment)
⑩ 19-inch standard rack mounting holes

Rear Panel

① AC output terminal
② RS-485 & RS-232 communication interface
③ AC input terminal
④ Heat dissipation air outlet

Front Panel & Rear Panel

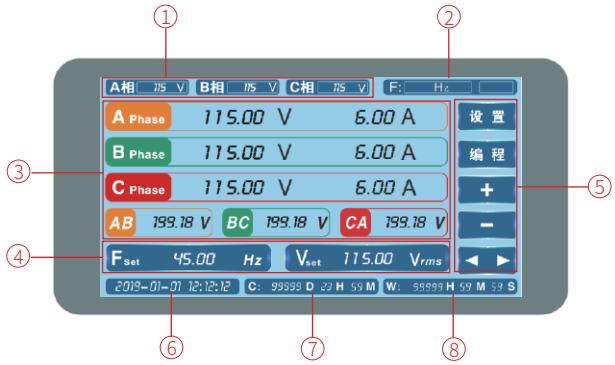


① LCD display (7 inches, touch screen)
② Control area
③ 19-inch standard rack handle
④ Heat dissipation air inlet
⑤ Caster wheel
⑥ Power input circuit breaker
⑦ Communication interface
⑧ Heat dissipation air outlet
⑨ AC input terminals
⑩ AC output terminal

Size
11

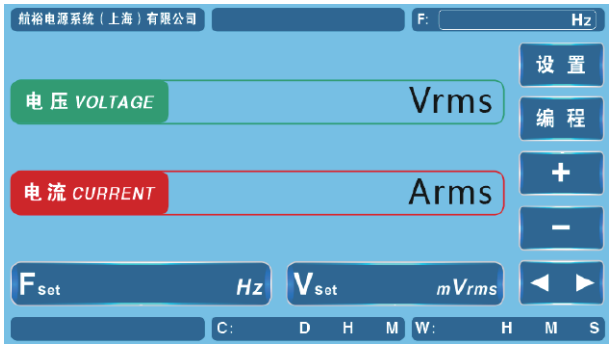
Display And Control Panel

Display Interface

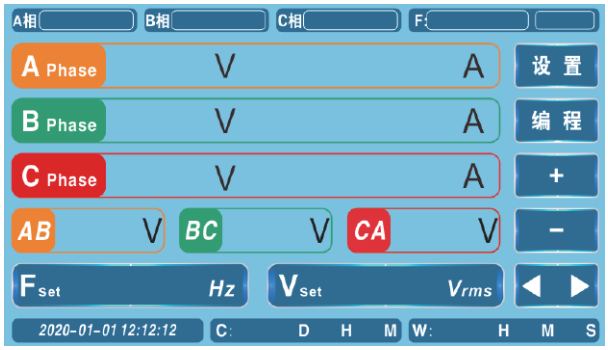


① Three phase phase voltage set value
② Frequency display area
③ Phase voltage, line voltage, current display area
④ Frequency/voltage setting value
⑤ Function setting area
⑥ Current time
⑦ Accumulated running time
⑧ This run time

Display Interface

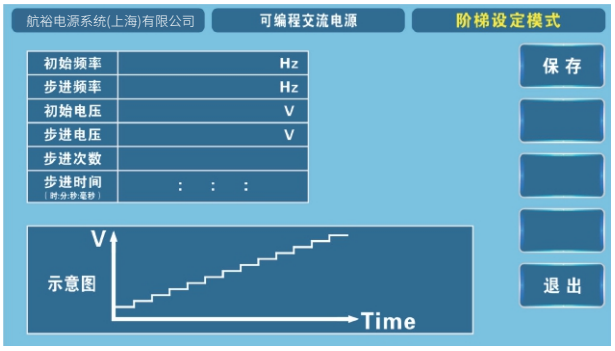


Main interface of single-phase power supply



Main interface of three-phase power supply

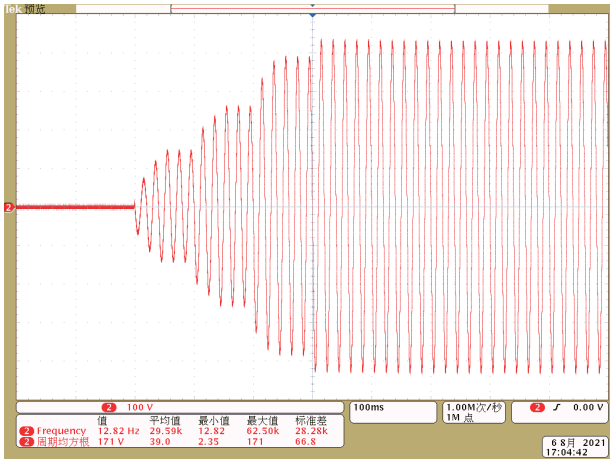
Step setting page can set the required frequency, voltage, Run time, initial step, end step, and number of cycles



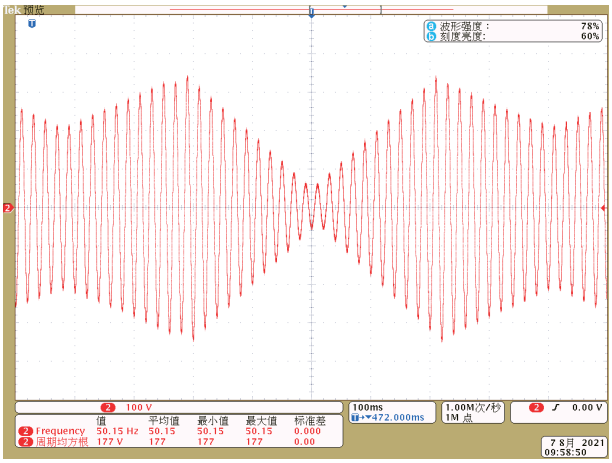
Ladder setting page can set the required initial frequency,Step frequency, initial voltage, step voltage, step number and step time

Gradient Setting page can set the required voltage and frequency, Run time, initial step, end step

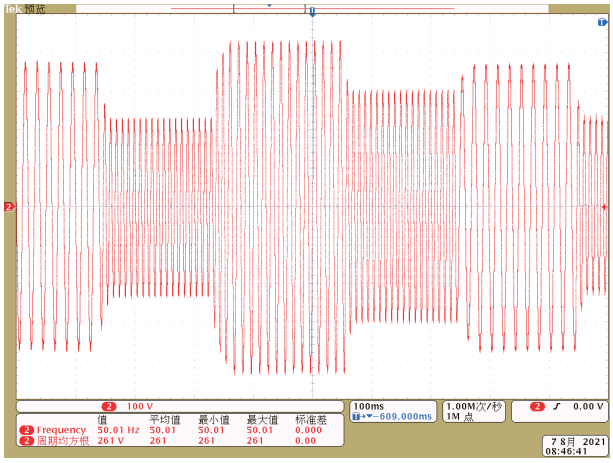
Output Voltage Waveform Of Single Phase Power Supply



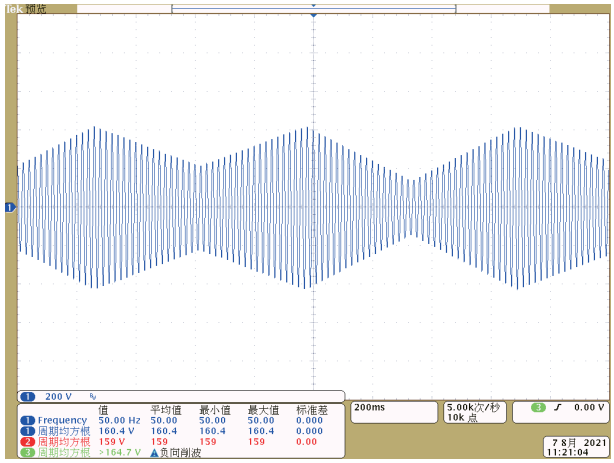
Step



Step

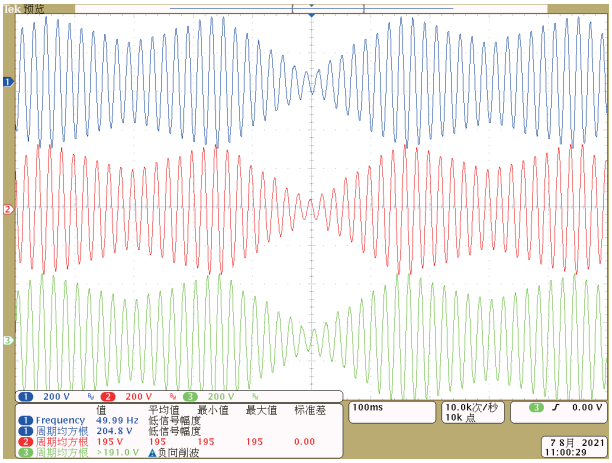


Ladder

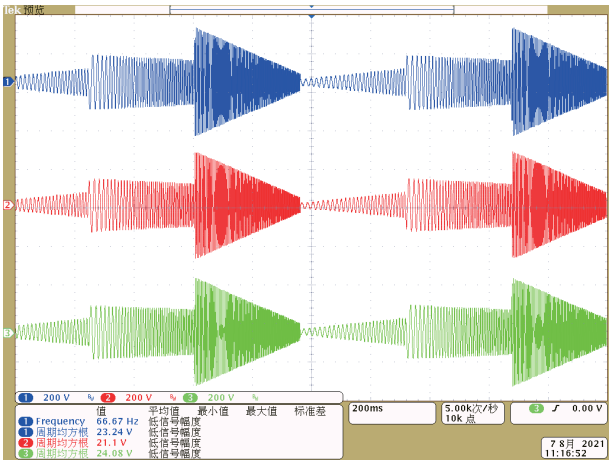


Gradation

Output Voltage Waveform Of Three Phase Power Supply



Three phase steps



Three-phase gradient

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

HY-PLMSU Series Product Manual, Version 06.12, June 2025

Authorized distributor：