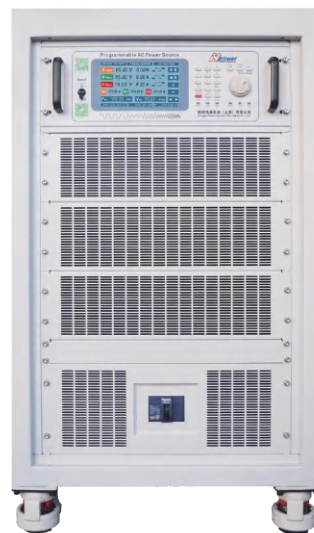
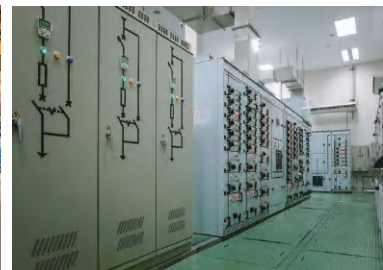


HY-PSMSU Series

Programmable Switching AC Medium Frequency Power Supply



Hangyu Power System (Shanghai) Co., LTD



HY-PSMSU Series Programmable Switching AC Medium Frequency Power Supply



High Power
High Precision
High Reliability

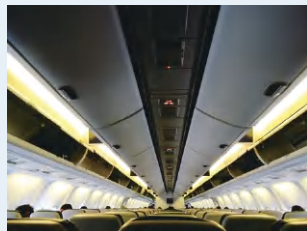
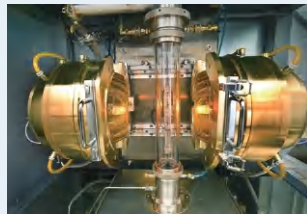


Product Features

- Output frequency range 320Hz-480Hz/300Hz-800Hz
Optional range 45Hz-1kHz
- Output capacity range 1 KVA-900 kva
- Output voltage VRMS L - N 0-138/180 VRMS / 276 VRMS KVRMS / 1
- Number of output phases Single-phase/three-phase
- Three-phase voltage independent adjustable, phase difference 0-359.99° adjustable
- Support front panel programming, without computer software control
- The voltage rise and fall slopes are adjustable
- Power output soft start function
- 16 bits D/A high precision converter for accurate output
- 16 bits A/D high precision converter, more accurate read back
- Multiple protection functions OVP, OCP, and OTP
- Standard 19-inch rack size, or floor-to-ceiling cabinet
- 7 inch LCD screen
- Touch screen operation & digital key input
- Multistage shuttle 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
- Optional interface : LAN&CAN
 - USB
 - GPIB
 - Analog programming and monitoring (isolated)

Application Field

- Aviation military
- Testing laboratory
- Motor
- Electronic parts
- Nuclear magnetic experiment test
- Aircraft electronic testing
- Maintenance station
- Machine shed



HY-PSMSU Series Product Selection Table

Product Model Naming Rules

Product Series	Input Phase Number	Output Phase Number	Output Capacity	Optional Function	Optional Function
HY-PSMSU	1	3	003	- CF	
Series name	1: Input single phase 3: Input three-phase	1: Output single phase 3: Output three-phase	Output capacity 3kVA	Short for optional function See optional features	
Selection examples: Product model: HY-PSMSU 13003-CF Input single-phase, output three-phase, output capacity 3kVA, Choose user-defined features.					- HR High resolution/precision DC input, DC 28.5V (Some models are supported, Please explain when ordering) - D270 DC input, DC 270V (Some models are supported, Please specify when ordering) - T2 Operating temperature -20°C to 45°C - T4 Operating temperature -40°C to 45°C - CF User-defined features (Please specify when ordering) - MR Measurement report (Issued by CNAS certified third party)

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

Product Model	Output Capacity	Input	Exportation	Product Model	Output Capacity	Input	Exportation	Output Voltage	Output Frequency
HY-PSMSU 11001	1kVA	Single phase		HY-PSMSU 1315L	1.5kVA	Single phase		Standard:	Standard:
HY-PSMSU 11002	2kVA			HY-PSMSU 13003	3kVA			L-N 0-115Vrms	400Hz
HY-PSMSU 11003	3kVA			HY-PSMSU 1345L	4.5kVA			L-N 0-138Vrms	320Hz-480Hz
HY-PSMSU 11005	5kVA			HY-PSMSU 13006	6kVA			Purchase:	
HY-PSMSU 31010	10kVA	Three phase	Single phase	HY-PSMSU 33010	10kVA	Three phase	Three phase	L-N 0-180Vrms	
HY-PSMSU 31015	15kVA			HY-PSMSU 33015	15kVA			L-N 0-230Vrms	Purchase:
HY-PSMSU 31020	20kVA			HY-PSMSU 33020	20kVA			L-N 0-276Vrms	45Hz-500Hz
HY-PSMSU 31030	30kVA			HY-PSMSU 33030	30kVA			L-N 0-1kVrms	45Hz-1kHz
HY-PSMSU 31045	45kVA			HY-PSMSU 33045	45kVA			Shipboard:	300Hz-500Hz
HY-PSMSU 31060	60kVA			HY-PSMSU 33060	60kVA			220V±10%	300 Hz-800Hz
HY-PSMSU 31075	75kVA			HY-PSMSU 33075	75kVA			230V±10%	300Hz-1000Hz
HY-PSMSU 31100	100kVA			HY-PSMSU 33090	90kVA			Mordant787	
HY-PSMSU 31120	120kVA			HY-PSMSU 33120	120kVA				
HY-PSMSU 31150	150kVA			HY-PSMSU 33150	150kVA				
HY-PSMSU 31180	180kVA			HY-PSMSU 33180	180kVA				
HY-PSMSU 31200	200kVA			HY-PSMSU 33210	210kVA				
				HY-PSMSU 33240	240kVA				
				HY-PSMSU 33300	300kVA				
				HY-PSMSU 33450	450kVA				

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

HY-PSMSU Series Technical Parameters

Single-Phase Input Single-Phase Output					
Product Model	PSMSU 11001	PSMSU 11002	PSMSU 11003	PSMSU 11005	
Power	1kVA	2kVA	3kVA	5kVA	
Model size	4U	4U	10U	10U	
	*1) 4U, standard 19-inch rack mount, or tabletop (fixed pads) 2) 10U, standard 19-inch rack, or floor to floor table with movable cardan casters and brakes.				
Circuit mode	IGBT/PWM pulse width modulation mode				
Communication mode	Standard configuration: RS-485 & RS-232 assorting: LAN, CAN, USB, GPIB, Analog programming and monitoring interface (isolated)				
Input					
Connection mode	Single-phase two-wire + ground wire (LN+PE)				
Input phase	Single phase 1Φ				
Input waveform	Sinusoidal wave				
Input voltage	220Vrms±15%				
Input frequency	47Hz-63Hz				
Exportation					
Output phase					
Rated set voltage	Standard	L-N 0-138Vrms Continuously adjustable, L-L 0-240Vrms Continuously adjustable			
	Purchase	L-N 0-180Vrms Continuously adjustable; L-N 0-230Vrms Continuously adjustable; L-N 0-276Vrms Continuously adjustable; Max1000Vrms Continuously adjustable (Select the voltage and the output current will be reduced proportionally)			
Rated current		7.3A	14.5A	21.8A	36.3A
	*The rated current is calculated based on the 138V voltage. If other voltages are selected, the rated current is calculated based on the selected voltage.				
Maximum current		8.7A	17.4A	26.1A	43.5A
	*Calculate the maximum current based on the 138V voltage. For example, select other voltages to calculate the maximum current.				
Frequency	Standard	Rated 400Hz, adjustable range 320Hz-480Hz continuously adjustable			
	Custom	45Hz - 500Hz, 45Hz-1kHz, 300Hz - 500Hz, 300Hz-800Hz, 300Hz-1000Hz			
Property					
Input adjustment rate	≤0.5%F.S. (Resistance test)				
Load adjustment rate	≤1%F.S. (Resistance test, 45Hz-500Hz output) ; ≤2%F.S. (Resistance test, > 500Hz output)				
Waveform distortion _(THD)	Sinusoidal wave, 100kVA以下THD≤2%; 100kVA-300kVA THD≤3% ; 300kVA以上THD≤5% (400Hz output) *Based on 400Hz test results.				
Efficiency	≤150kVA Model efficiency ≥90%; > 150kVA Model efficiency ≥92%;				
Frequency stability	≤0.02%F.S.				
Voltage stability	≤0.5%F.S.				
Voltage crest coefficient	1.414±0.05				
Noise	≤65dB(A),The measurement is weighted with 1m				

HY-PSMSU Series Technical Parameters

Programming And Readback Accuracy & Resolution		
Settings	Voltage output programming accuracy	$\pm 0.5\%$ F.S.
	Frequency output programming accuracy	$\pm 0.01\%$ F.S.
	Voltage setting resolution	0.01V
	Frequency setting resolution	0.01Hz
Backward read	Voltage output read-back accuracy	$\pm 0.5\%$ F.S.
	Current output read back accuracy	$\pm 0.5\%$ F.S.
	Frequency output read-back accuracy	$\pm 0.01\%$ F.S.
	Voltage read back resolution	0.01V
	Current read back resolution	0.0001A ($\leq 6A$) ; 0.001A ($\leq 60A$) ; 0.01A < 600A (16Bits 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; II equipment
Operating ambient temperature	0°C to 45°C; Choose from -20°C to 45°C; -40°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 12,000m
Cooling condition	Forced air cooling, intelligent speed control fan, both sides/front air, rear air
Transport condition	Road transport

Control Panel	
Display	7 inches, LCD LCD display, touch screen
Display item	Phase 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/shuttle knob input (outer ring coarse adjustment/inner ring fine adjustment)
Control mode	Local control/remote control
Programming function	Step/ladder/gradient

HY-PSMSU Series Technical Parameters

Three-phase Input, Single-phase Output							
Product model	PSMSU 31010	PSMSU 31015	PSMSU 31020	PSMSU 31030	PSMSU 31045	PSMSU 31060	
Power	10kVA	15kVA	20kVA	30kVA	45kVA	60kVA	
Model size	18U	18U	24U	30U	Non-standard cabinet	Non-standard cabinet	
	*1) 18U and above, floor-to-ceiling cabinet with movable casters and brakes.						
Circuit mode	IGBT/PWM pulse width modulation mode						
Communication mode	Standard configuration: RS-485 & RS-232 assorting: LAN, CAN, USB, GPIB, Analog programming and monitoring interface (isolated)						
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 ± 15%						
Input frequency	47Hz-63Hz						
Exportation							
Output phase	Single phase 1Φ						
Rated set voltage	Standard	L-N 0-138Vrms Continuously adjustable, L-L 0-240Vrms Continuously adjustable					
	Purchase	L-N 0-180Vrms Continuously adjustable; L-N 0-230Vrms Continuously adjustable; L-N 0-276Vrms Continuously adjustable; Max1000Vrms Continuously adjustable (Select the voltage and the output current will be reduced proportionally)					
Rated current		72.5A	108.7A	144.9A	217.4A	326.1A	434.8A
	*The rated current is calculated based on the 138V voltage. If other voltages are selected, the rated current is calculated based on the selected voltage.						
Maximum current		87.0A	130.5A	174A	260.9A	391.4A	521.8A
	*Calculate the maximum current based on the 138V voltage. For example, select other voltages to calculate the maximum current.						
Frequency	Standard	Rated 400Hz, adjustable range 320Hz-480Hz continuously adjustable					
	Custom	45Hz - 500Hz, 45Hz-1kHz, 300Hz - 500Hz, 300Hz-800Hz, 300Hz-1000Hz					
Property							
Input adjustment rate	≤0.5%F.S. (Resistance test)						
Load adjustment rate	≤1%F.S. (Resistance test, 45Hz-500Hz exportation) ; ≤2%F.S. (Resistance test, > 500Hz output)						
Waveform distortion _(THD)	Sine wave, THD≤2% below 100kVA; 100kVA-300kVA THD≤3%; Above 300kVA THD≤5% (400Hz output) *Based on 400Hz test results.						
Efficiency	≤150kVA model efficiency ≥90%; > 150kVA model efficiency ≥92%;						
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-PSMSU Series Technical Parameters

Programming And Readback Accuracy & Resolution		
Settings	Voltage output programming accuracy	±0.5%F.S.
	Frequency output programming accuracy	±0.01%F.S.
	Voltage setting resolution	0.01V
	Frequency setting resolution	0.01Hz
Backward read	Voltage output read-back accuracy	±0.5%F.S.
	Current output read back accuracy	±0.5%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 (16Bits 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; II equipment	
Operating ambient temperature	0°C to 45°C; Choose from -20°C to 45°C; -40°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 12,000m	
Cooling condition	Forced air cooling, intelligent speed control fan, both sides/front air, rear air	
Transport condition	Road transport	
Control Panel		
Display	7 inches, LCD LCD display, touch screen	
Display item	Phase 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/shuttle knob input (outer ring coarse adjustment/inner ring fine adjustment)	
Control mode	Local control/remote control	
Programming function	Step/ladder/gradient	

HY-PSMSU Series Technical Parameters

Three-phase Input, Single-phase Output							
Product model	PSMSU 31075	PSMSU 31100	PSMSU 31120	PSMSU 31150	PSMSU 31180	PSMSU 31200	
Power	75kVA	100kVA	120kVA	150kVA	180kVA	200kVA	
Model size	Non-standard cabinet	Non-standard cabinet	Non-standard cabinet	Non-standard cabinet	Non-standard cabinet	Non-standard cabinet	
	*1) Non-standard cabinet above 18U, floor to floor cabinet with movable universal casters and brakes.						
Circuit mode	IGBT/PWM pulse width modulation mode						
Communication mode	Standard: RS-485 & RS-232 Options: LAN, CAN, USB, GPIB, analog programming and monitoring interface (isolated 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±15%						
Input frequency	47Hz-63Hz						
Exportation							
Output phase	Single phase 1Φ						
Rated set voltage	Standard	L-N 0-138Vrms is continuously adjustable, L-L 0-240Vrms is continuously adjustable					
	Purchase	L-N 0-180Vrms Continuously adjustable; L-N 0-230Vrms continuously adjustable; L-N 0-276Vrms Continuously adjustable; Max1000Vrms Continuously adjustable (Optional voltage, output current will be proportionally reduced)					
Rated current		543.5A	724.7A	869.6A	1087A	1304.4A	1449.3A
	*The rated current is calculated based on the 138V voltage. If other voltages are selected, the rated current is calculated based on the selected voltage.						
Maximum current		652.2A	869.6A	1043.5A	1304.4A	1565.3A	1739.2A
	*Calculate the maximum current based on the 138V voltage. For example, select other voltages to calculate the maximum current.						
Frequency	Standard	Rated 400Hz, adjustable range 320Hz-480Hz continuously adjustable					
	Custom	45Hz - 500Hz, 45Hz-1kHz, 300Hz - 500Hz, 300Hz-800Hz, 300Hz-1000Hz					
Property							
Input adjustment rate	≤0.5%F.S. (Resistance test)						
Load adjustment rate	≤1%F.S. (resistance test, 45Hz-500Hz output); ≤2%F.S. (resistance test, > 500Hz output)						
Waveform distortion _(THD)	Sine wave, THD≤2% below 100kVA; 100kVA-300kVA THD≤3%; Above 300kVA THD≤5% (400Hz output) *Based on 400Hz test results.						
Efficiency	≤150kVA model efficiency ≥90%; > 150kVA model efficiency ≥92%;						
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-PSMSU Series Technical Parameters

Programming And Readback Accuracy & Resolution		
Settings	Voltage output programming accuracy	$\pm 0.5\%F.S.$
	Frequency output programming accuracy	$\pm 0.01\%F.S.$
	Voltage setting resolution	0.01V
	Frequency setting resolution	0.01Hz
Backward read	Voltage output read-back accuracy	$\pm 0.5\%F.S.$
	Current output read back accuracy	$\pm 0.5\%F.S.$
	Frequency output read-back accuracy	$\pm 0.01\%F.S.$
	Voltage read back resolution	0.01V
	Current read back resolution	0.0001A ($\leq 6A$) ; 0.001A ($\leq 60A$) ; 0.01A < 600A (16Bits 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; II equipment	
Operating ambient temperature	0°C to 45°C; Choose from -20°C to 45°C; -40°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 12,000m	
Cooling condition	Forced air cooling, intelligent speed control fan, both sides/front air, rear air	
Transport condition	Road transport	
Control Panel		
Display	7 inches, LCD LCD display, touch screen	
Display item	Phase 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/shuttle knob input (outer ring coarse adjustment/inner ring fine adjustment)	
Control mode	Local control/remote control	
Programming function	Step/ladder/gradient	

HY-PSMSU Series Technical Parameters

Single Phase Input Three Phase Output					
Product model	PSMSU1315L	PSMSU13003	PSMSU1345L	PSMSU13006	
Power	1.5kVA	3kVA	4.5kVA	6kVA	
Model size	4U	4U	10U	10U	
	*1) 4U, standard 19-inch rack mount, or tabletop (fixed pads) 2) 10U, standard 19-inch rack, or floor table (with movable cardan casters and brakes).				
Circuit mode	IGBT/PWM pulse width modulation mode				
Communication mode	Standard: RS-485 & RS-232 Options: LAN, CAN, USB, GPIB, analog programming and monitoring interface (isolated type)				
Input					
Connection mode	Single-phase two-wire + Ground (LN+PE)				
Input phase	Single phase 1Φ				
Input waveform	Sinusoidal wave				
Input voltage	220Vrms ± 15%				
Input frequency	47Hz-63Hz				
Exportation					
Output phase	Three-phase 3Φ				
Rated set voltage	Standard	L-N 0-138Vrms is continuously adjustable, L-L 0-240Vrms is continuously adjustable			
	Purchase	L-N 0-180Vrms Continuously adjustable; L-N 0-230Vrms continuously adjustable; L-N 0-276Vrms Continuously adjustable; Max1000Vrms continuously adjustable (Optional voltage, output current will be proportionally reduced)			
Rated current		3.7A	7.3A	10.9A	14.5A
	*The rated current is calculated based on the 138V voltage. If other voltages are selected, the rated current is calculated based on the selected voltage.				
Maximum current		4.4A	8.7A	13.1A	17.4A
	*Calculate the maximum current based on the 138V voltage. For example, select other voltages to calculate the maximum current.				
Frequency	Standard	Rated 400Hz, adjustable range 320Hz-480Hz continuously adjustable			
	Custom	45Hz - 500Hz, 45Hz-1kHz, 300Hz - 500Hz, 300Hz-800Hz, 300Hz-1000Hz			
Property					
Input adjustment rate	≤0.5%F.S. (Resistance test)				
Load adjustment rate	≤1%F.S. (resistance test, 45Hz-500Hz output); ≤2%F.S. (resistance test, > 500Hz output)				
Waveform distortion(THD)	Sine wave, THD≤2% below 100kVA; 100kVA-300kVA THD≤3%; Above 300kVA THD≤5% (400Hz output) *Based on 400Hz test results.				
Efficiency	≤150kVA model efficiency ≥90%; > 150kVA model efficiency ≥92%;				
Frequency stability	≤0.02%F.S.				
Voltage stability	≤0.5%F.S.				
Voltage crest coefficient	1.414±0.05				
Voltage unbalance	Three-phase output ≤1Vrms (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-PSMSU Series Technical Parameters

Programming And Readback Accuracy & Resolution		
Settings	Voltage output programming accuracy	$\pm 0.5\%F.S.$
	Frequency output programming accuracy	$\pm 0.01\%F.S.$
	Voltage setting resolution	0.01V
	Frequency setting resolution	0.01Hz
Backward read	Voltage output read-back accuracy	$\pm 0.5\%F.S.$
	Current output read back accuracy	$\pm 0.5\%F.S.$
	Frequency output read-back accuracy	$\pm 0.01\%F.S.$
	Voltage read back resolution	0.01V
	Current read back resolution	0.0001A ($\leq 6A$) ; 0.001A ($\leq 60A$) ; 0.01A < 600A (16Bits 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; II equipment	
Operating ambient temperature	0°C to 45°C; Choose from -20°C to 45°C; -40°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 12,000m	
Cooling condition	Forced air cooling, intelligent speed control fan, both sides/front air, rear air	
Transport condition	Road transport	
Control Panel		
Display	7 inches, LCD LCD display, touch screen	
Display item	Phase 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/shuttle knob input (outer ring coarse adjustment/inner ring fine adjustment)	
Control mode	Local control/remote control	
Programming function	Step/ladder/gradient	

HY-PSMSU Series Technical Parameters

Three Phase Input Three Phase Output									
Product model	PSMSU33010	PSMSU33015	PSMSU33020	PSMSU33030	PSMSU33045	PSMSU33060	PSMSU33075	PSMSU33090	
Power	10kVA	15kVA	20kVA	30kVA	45kVA	60kVA	75kVA	90kVA	
Model size	18U	24U	28U	30U	Non-standard cabinet	Non-standard cabinet	Non-standard cabinet	Non-standard cabinet	
	*1) Non-standard cabinet above 18U, floor to floor cabinet with movable universal casters and brakes.								
Circuit mode	IGBT/PWM pulse width modulation mode								
Communication mode	Standard: RS-485 & RS-232 Options: LAN, CAN, USB, GPIB, analog programming and monitoring interface (isolated 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±15%								
Input frequency	47Hz-63Hz								
Exportation									
Output phase	Three-phase 3Φ								
Rated set voltage	Standard	L-N 0-138Vrms Continuously adjustable, L-L 0-240Vrms Continuously adjustable							
	Purchase	L-N 0-180Vrms Continuously adjustable; L-N 0-230Vrms continuously adjustable; L-N 0-276Vrms Continuously adjustable; Max1000Vrms continuously adjustable (Optional voltage, output current will be proportionally reduced)							
Rated current		24.2A	36.3A	48.3A	72.5A	108.7A	145A	181.2A	217.4A
	*The rated current is calculated based on the 138V voltage. If other voltages are selected, the rated current is calculated based on the selected voltage.								
Maximum current		29A	43.5A	58A	87A	130.5A	174A	217.4A	260.9A
	*Calculate the maximum current based on the 138V voltage. For example, select other voltages to calculate the maximum current.								
Frequency	Standard	Rated 400Hz, adjustable range 320Hz-480Hz continuously adjustable							
	Custom	45Hz - 500Hz, 45Hz-1kHz, 300Hz - 500Hz, 300Hz-800Hz, 300Hz-1000Hz							
Property									
Input adjustment rate	≤0.5%F.S. (Resistance test)								
Load adjustment rate	≤1%F.S. (resistance test, 45Hz-500Hz output); ≤2%F.S. (resistance test, > 500Hz output)								
Waveform distortion(THD)	Sine wave, THD≤2% below 100kVA; 100kVA-300kVA THD≤3%; Above 300kVA THD≤5% (400Hz output) *Based on 400Hz test results.								
Efficiency	≤150kVA model efficiency ≥90%; > 150kVA model efficiency ≥92%;								
Frequency stability	≤0.02%F.S.								
Voltage stability	≤0.5%F.S.								
Voltage crest coefficient	1.414±0.05								
Voltage unbalance	Three-phase output ≤1Vrms (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-PSMSU Series Technical Parameters

Programming And Readback Accuracy & Resolution		
Settings	Voltage output programming accuracy	$\pm 0.5\%$ F.S.
	Frequency output programming accuracy	$\pm 0.01\%$ F.S.
	Voltage setting resolution	0.01V
	Frequency setting resolution	0.01Hz
Backward read	Voltage output read-back accuracy	$\pm 0.5\%$ F.S.
	Current output read back accuracy	$\pm 0.5\%$ F.S.
	Frequency output read-back accuracy	$\pm 0.01\%$ F.S.
	Voltage read back resolution	0.01V
	Current read back resolution	0.0001A ($\leq 6A$); 0.001A ($\leq 60A$); 0.01A ($< 600A$) (16Bits 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; II equipment	
Operating ambient temperature	0°C to 45°C; Choose from -20°C to 45°C; -40°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 12,000m	
Cooling condition	Forced air cooling, intelligent speed control fan, both sides/front air, rear air	
Transport condition	Road transport	
Control Panel		
Display	7 inches, LCD LCD display, touch screen	
Display item	Phase 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/shuttle knob input (outer ring coarse adjustment/inner ring fine adjustment)	
Control mode	Local control/remote control	
Programming function	Step/ladder/gradient	

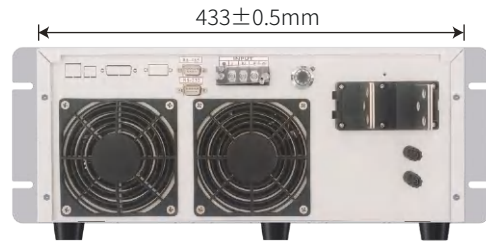
HY-PSMSU Series Technical Parameters

Three Phase Input Three Phase Output								
Product model	PSMSU33120	PSMSU33150	PSMSU33180	PSMSU33210	PSMSU33240	PSMSU33300	PSMSU33450	
Power	120kVA	150kVA	180kVA	210kVA	240kVA	300kVA	450kVA	
Model size	Non-standard cabinet	Non-standard cabinet	Non-standard cabinet	Non-standard cabinet	Non-standard cabinet	Non-standard cabinet	Non-standard cabinet	
	*1) Non-standard cabinet above 18U, floor to floor cabinet with movable universal casters and brakes.							
Circuit mode	IGBT/PWM pulse width modulation mode							
Communication mode	Standard: RS-485 & RS-232 Options: LAN, CAN, USB, GPIB, analog programming and monitoring interface (isolated 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±15%							
Input frequency	47Hz-63Hz							
Exportation								
Output phase	Three-phase 3Φ							
Rated set voltage	Standard	L-N 0-138Vrms is continuously adjustable, L-L 0-240Vrms is continuously adjustable						
	Purchase	L-N 0-180Vrms Continuously adjustable; L-N 0-230Vrms continuously adjustable; L-N 0-276Vrms Continuously adjustable; Max1000Vrms continuously adjustable (Optional voltage, output current will be proportionally reduced)						
Rated current		289.9A	362.4A	434.8A	507.3A	579.8A	724.7A	1087A
	*The rated current is calculated based on the 138V voltage. If other voltages are selected, the rated current is calculated based on the selected voltage.							
Maximum current		347.9A	434.9A	521.8A	608.8A	695.8A	869.7A	1304A
	*Calculate the maximum current based on the 138V voltage. For example, select other voltages to calculate the maximum current.							
Frequency	Standard	Rated 400Hz, adjustable range 320Hz-480Hz continuously adjustable						
	Custom	45Hz - 500Hz, 45Hz-1kHz, 300Hz - 500Hz, 300Hz-800Hz, 300Hz-1000Hz						
Property								
Input adjustment rate	≤0.5%F.S. (Resistance test)							
Load adjustment rate	≤1%F.S. (resistance test, 45Hz-500Hz output); ≤2%F.S. (resistance test, > 500Hz output)							
Waveform distortion(THD)	Sine wave, THD≤2% below 100kVA; 100kVA-300kVA THD≤3%; Above 300kVA THD≤5% (400Hz output) *Based on 400Hz test results.							
Efficiency	≤150kVA model efficiency ≥90%; > 150kVA model efficiency ≥92%;							
Frequency stability	≤0.02%F.S.							
Voltage stability	≤0.5%F.S.							
Voltage crest coefficient	1.414±0.05							
Voltage unbalance	Three-phase output ≤1Vrms (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-PSMSU Series Technical Parameters

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Storage ambient temperature	-20°C to 65°C	
Working ambient humidity	20%-90%RH, no condensation, continuous operation	
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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 12,000m	
Cooling condition	Forced air cooling, intelligent speed control fan, both sides/front air, rear air	
Transport condition	Road transport	
Control Panel		
Display	7 inches, LCD LCD display, touch screen	
Display item	Phase 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/shuttle knob input (outer ring coarse adjustment/inner ring fine adjustment)	
Control mode	Local control/remote control	
Programming function	Step/ladder/gradient	

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



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

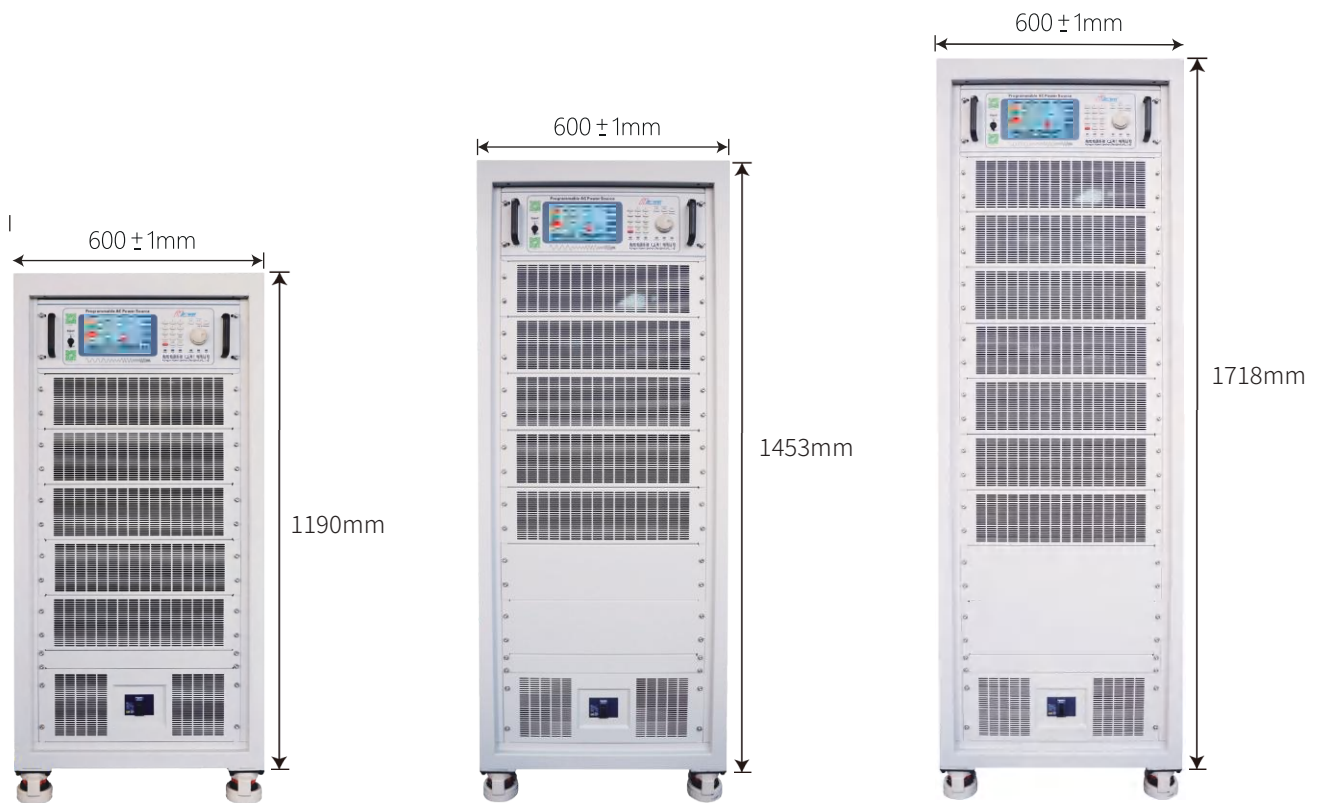


Appearance & Size

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

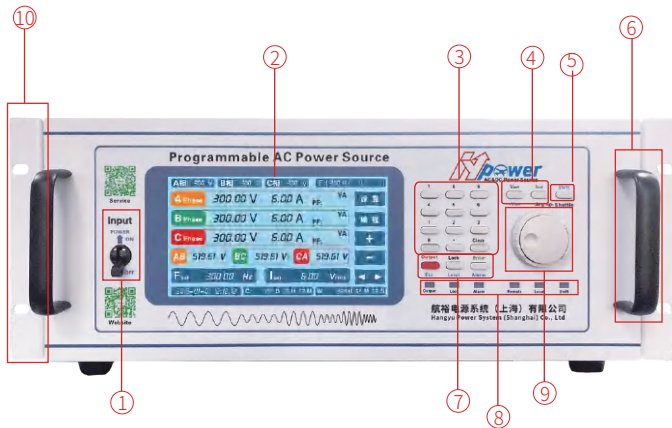


24U 600(W)*800(D)*1190(H)mm
30U 600(W)*800(D)*1453(H)mm
36U 600(W)*800(D)*1718(H)mm



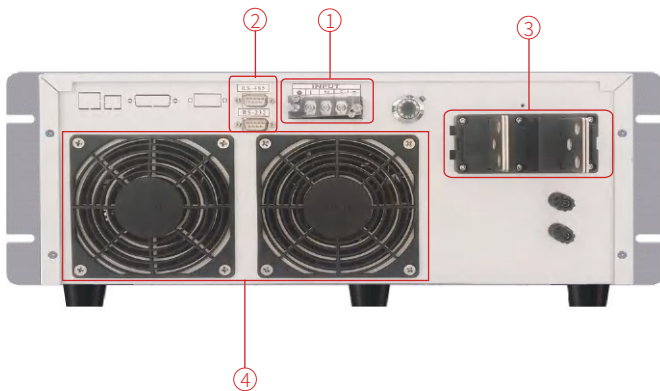
Display And Control Panel

Control Panel



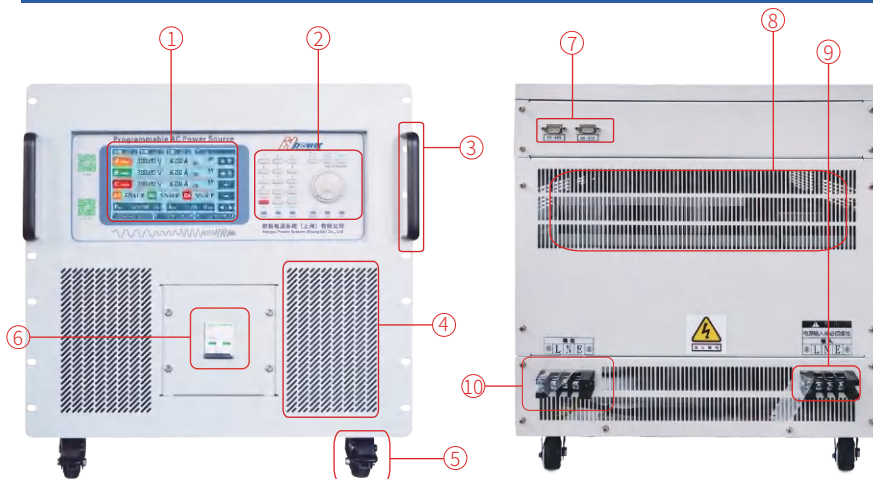
- ① Power input circuit breaker
- ② LCD display (7 inches, touch screen)
- ③ Numeric input keyboard
- ④ Frequency/voltage or current setting key
- ⑤ Shift function reuse key
- ⑥ Case handle
- ⑦ Lock Locks, confirms Enter, and exits Esc
Local Local or Reset Restarts
Output ON/OFF Switch
- ⑧ Status light
- ⑨ Multistage shuttle adjustment knob
(inner ring fine adjustment/outer ring coarse adjustment)
- ⑩ 19-inch standard rack mounting holes

Rear Panel



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

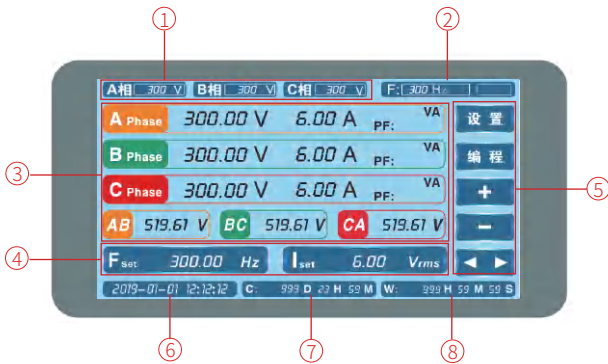
Front Panel & Rear Panel



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

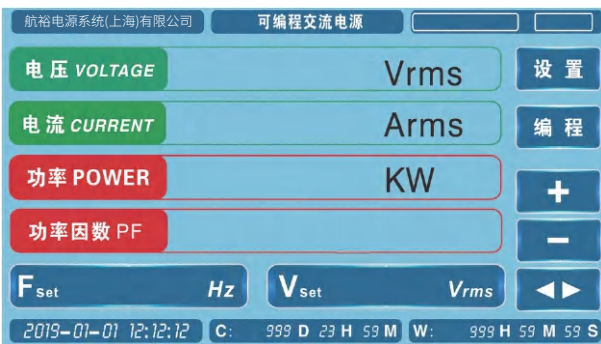
Display And Control Panel

Display Interface



- ① Three phase voltage
- ② Product frequency
- ③ Three-phase voltage and current display area
- ④ Frequency/voltage setting value
- ⑤ Function setting area
- ⑥ Current time
- ⑦ Cumulative running time
- ⑧ This running time

Display Interface



Main interface of single-phase power supply



Main interface of the dual phase power supply

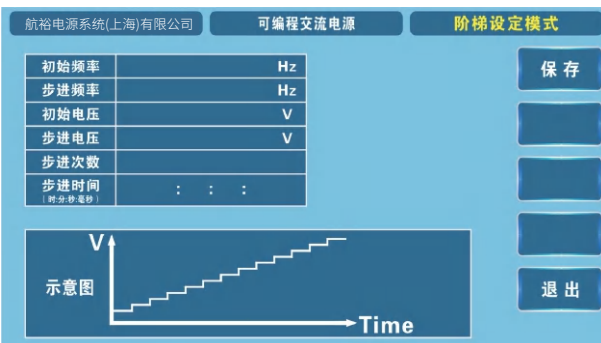


Main interface of three-phase power supply

航裕电源系统(上海)有限公司 可编程交流电源 步阶设定模式

步号	频率 (Hz)	电压 (V)	运行时间 (H:M:S:mS)	起始步
			: : :	结束步
			: : :	循环次数
			: : :	保存
			: : :	退出
			: : :	上一页
			: : :	下一页

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



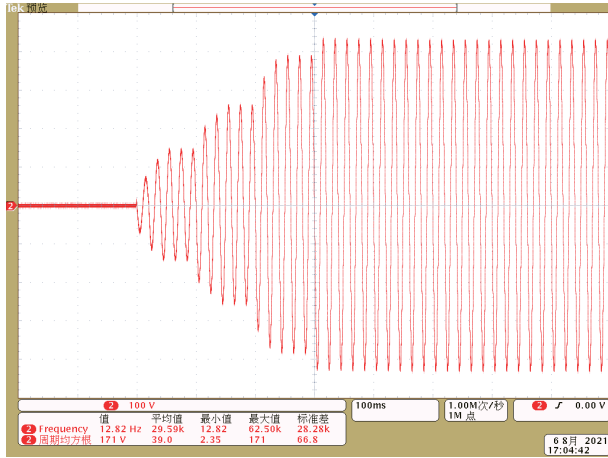
Step setting page can set the required initial frequency, Step frequency, initial voltage, step voltage, step number and step time

航裕电源系统(上海)有限公司 渐变设定模式

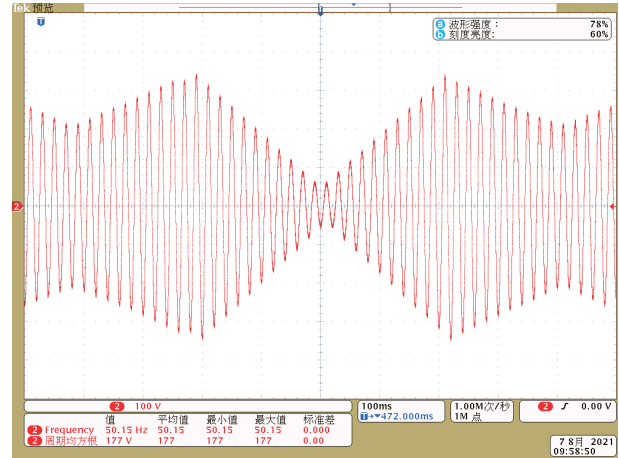
步号	频率 (Hz)	电压 (V)	运行时间 (时:分:秒:毫秒)	起始步
起			: : :	结束步
止			: : :	循环次数
起			: : :	保存
止			: : :	退出
起			: : :	上一页
止			: : :	下一页

The gradient Settings page can set the required voltage and frequency Run time, initial step, end step

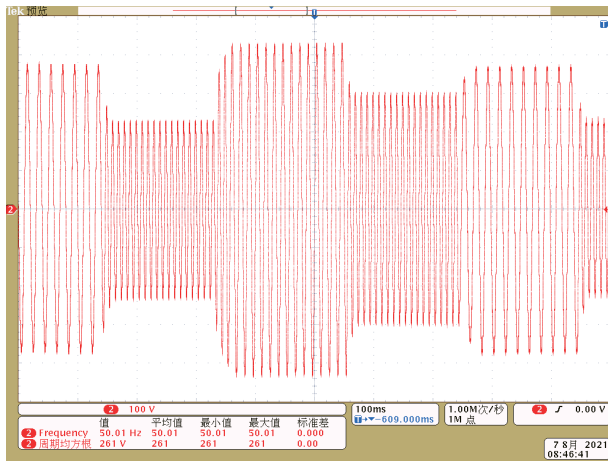
Output Voltage Waveform Of Single-phase Power Supply



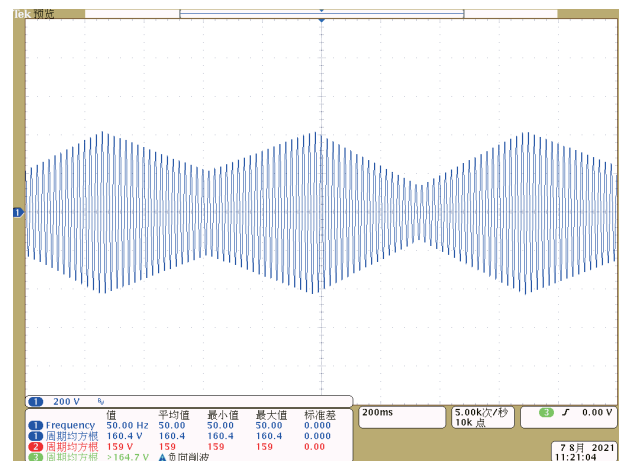
step



step

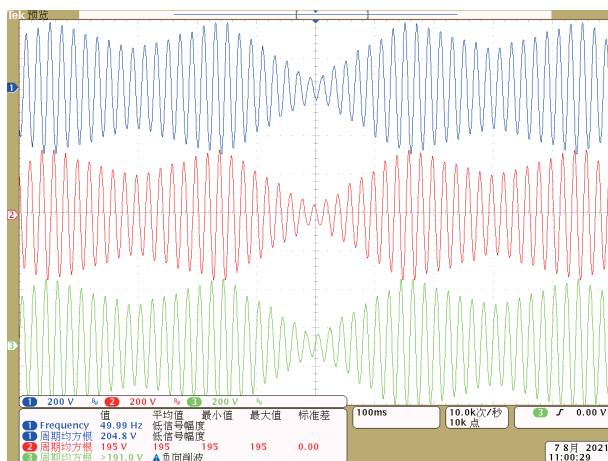


ladder

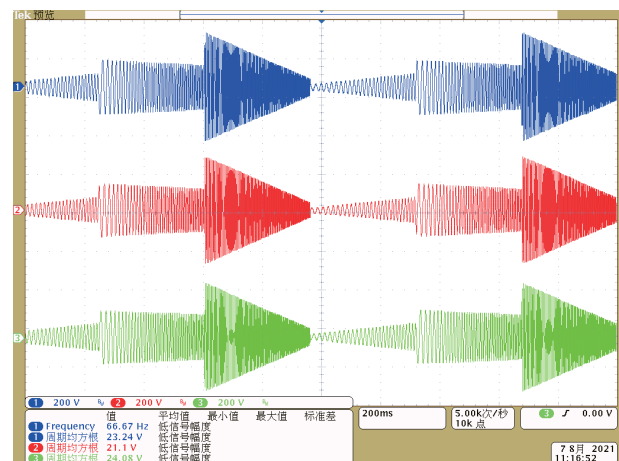


gradation

Output Voltage Waveform Of Three-phase Power Supply



Three-phase step



Three-phase gradient

Cooperative Customers (Part)

Aerospace & Defense Military Research Institute



China Aerospace



Aerospace science and engineering



Aviation industry



China Air Development



China Electrical Engineering Group



China Shipbuilding Corporation



China Shipbuilding Industry Corporation

CASC 803 (Shanghai Aerospace Control Technology Institute)
 CASC 800 (Shanghai Aerospace Precision Machinery Research 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 801 (Shanghai Space Propulsion Research Institute)
 CASC 502 (Beijing Control Engineering Research Institute)
 CASC 510 (Lanzhou Institute of Space Technology Physics)
 CASIC 206 (Beijing Machinery and Equipment Research Institute)
 CASIC 304 Institute (Beijing Great Wall Institute of Measurement and Testing Technology)
 CASIC 307 Factory (Aerospace Chengguang Co., LTD.)
 33 CASIC (33 Aerospace Science and Industry Institutes)
 CASIC 3651 Factory (Guizhou Aerospace Linquan Motor Co., LTD.)
 AVIC 615 (Aeronautical Radio Electronics Research Institute of China)
 AVIC 618 (Xi'an Flight Automatic Control Research Institute)
 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 181 Factory (Wuhan Aviation Instrument Co., LTD.)
 AVIC 607 Institute (China Leihua Electronic Technology Institute)
 AECC 606 Institute (Shenyang Engine Research Institute)
 CETC 14 Institute (Nanjing Institute of Electronic Technology)
 CETC 21 Institute (Shanghai Micromotor Research Institute)
 CETC 23 Institute (Shanghai Transmission Line Research Institute)
 CETC 36 Institute (Jiangnan Institute of Electronic Communication)
 CETC 38 Institute (East China Institute of Electronic Engineering)
 CETC 50 Institute (Shanghai Microwave Technology Research Institute)
 CETC 51 Institute (Shanghai Microwave Equipment Research Institute)
 CETC 54 Institute (Shijiazhuang Communication Measurement and Control Technology Research Institute)
 CETC 55 Institute (Nanjing Institute of Electronic Devices)
 CSIC 707 Institute (Tianjin Institute of Marine Instruments)
 CSIC 719 Institute (Wuhan Second Ship Design Institute)
 CSIC 704 Institute (Shanghai Marine Equipment Research Institute)
 CSIC 726 Institute (Shanghai Marine Electronic Equipment Research Institute)
 Jiangnan Shipbuilding (Group) Co., LTD
 Nanjing Panda Electronics Co., LTD
 State-owned 741 Factory (Nanjing Huadong Electronics Group Co., LTD.)

Chinese People's Liberation Army

South Sea Fleet
 East China Sea Fleet
 North Sea Fleet
 Navy Plant 701 / Plant 702
 4724 Factory (Shanghai Haiying Machinery Factory)
 Unit 95861 (Empty Base 1)

Commercial Aviation



Commercial Aircraft Corporation of China



Collins Aerospace

Rockwell Collins



Guangzhou Aircraft Maintenance Engineering Co., LTD



Beijing Aircraft Maintenance Engineering Co., LTD

Scientific Research & Third Party Quality Inspection Agency

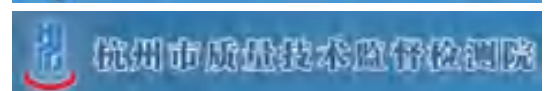
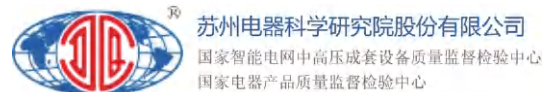
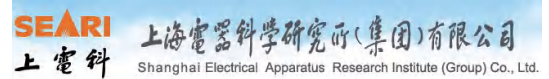
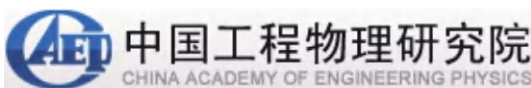


Technical Institute of Physics and Chemistry (Beijing)

Institute of Urban Environment (Xiamen)

Electrotechnical Research Institute (Beijing)

Institute of Applied Physics (Shanghai)



Cooperative Customers (Part)

Military Academies & Local Universities



High-tech R&D Enterprise



Official wechat:hypower-cn



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Tel: 400 612 6078

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Email: Sales@hypower.cn

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Website: www.hypower.cn

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Hangyu Power AC Power Supply Product Manual, version 06.00, 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:

