

# HY-SCS Series Programmable Switching AC Current Source



Hangyu Power System (Shanghai) Co., Ltd



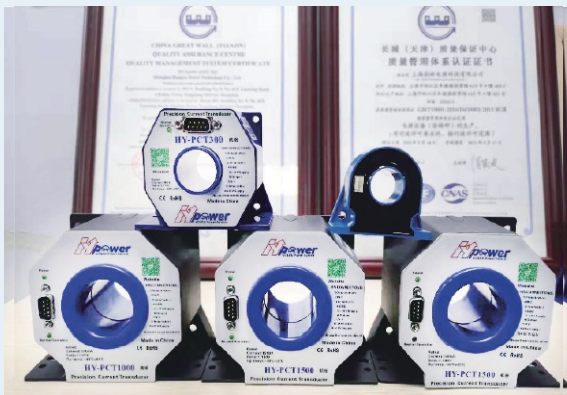
# HY-SCS Series Programmable Switching AC Current Source

High Purity, High Precision, High Reliability



## Application Field

- ◆ Current sensor
- ◆ Current Transformer
- ◆ Cable
- ◆ Wiring Harness
- ◆ Connector
- ◆ Circuit breaker
- ◆ Contactor
- ◆ Low voltage electrical appliances



## Product Features

- Output frequency range 45Hz-70Hz,  
Optional range 45Hz-1kHz
- Output capacity optional range 1kVA-300kVA
- Output current range 1-12000A
- Open circuit voltage 2V/5V/10V/20V, optional 2-300V
- Support front panel programming, no need for PC software control
- Voltage rising and falling slopes are adjustable
- Power output soft-start function
- 16 bits D/A high precision converter, accurate output
- 16 bits A/D high precision converter, more accurate readback
- Multiple protection functions OVP/OCP/OTP
- 19-inch standard rack size or floor-standing cabinet
- 7-inch large LCD screen
- Touch screen operation & numeric key input
- Multi-level shuttle adjustment knob
- The power input is controlled by a circuit breaker, which is more secure
- Output ON/OFF button
- Fan intelligent speed regulation design to reduce noise
- Front/side air intake, rear air outlet, saving cooling space
- Support Modbus protocol
- Standard interface: RS-485&RS-232
- Optional interface: LAN&CAN  
USB  
GPIB  
Analog programming and monitoring (isolated)

# HY-SCS Series Product Selection Table

**In the selection table, special specifications outside the range of voltage/frequency/output capacity can be customized.**

SCS Series Programmable Switching AC Current Source				
Product model	Max output current (Arms)	Max open circuit voltage(L-N,Vrms)	Output capacity (1Φ/3Φ)	Output frequency(Hz)
HY-SCS	100A	2.5V 5V 10V 20V 36V 48V Multiple options available	1kVA	45Hz -70Hz 320Hz -480Hz 45Hz -1000Hz Three options available
HY-SCS	150A		2kVA	
HY-SCS	200A		3kVA	
HY-SCS	250A		5kVA	
HY-SCS	300A		10kVA	
HY-SCS	400A		15kVA	
HY-SCS	600A		20kVA	
HY-SCS	1000A		25kVA	
HY-SCS	1200A		30kVA	
HY-SCS	1500A		40kVA	
HY-SCS	2000A		50kVA	
HY-SCS	2500A		60kVA	
HY-SCS	3000A		100kVA	
HY-SCS	5000A		120kVA	
HY-SCS	6000A		300kVA	
HY-SCS	10000A		Multiple options available	
HY-SCS	12000A			

## Product Model Naming Rules (1Φ)

Product series	Open circuit voltage	Output current	Customized function
HY-SCS	10	100	CF
Series name	Open circuit voltage is 10V	Output current is 1A-100A	Abbreviation for customized function See optional features

Selection example:

Product model: HY-SCS 10-100-CF

Open circuit voltage 10V, output current 1A-100A, optional user-defined function

## Product Model Naming Rules (3Φ)

Product series	Three-phase output	Open circuit voltage	Output current	Customized function
HY-SCS	3P	10	100	CF
Series name	Three-phase output	Open circuit voltage is 10V	Output current is 1A-100A	Abbreviation for customized function See optional features

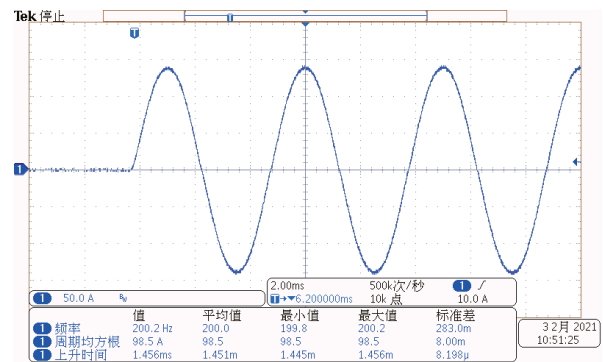
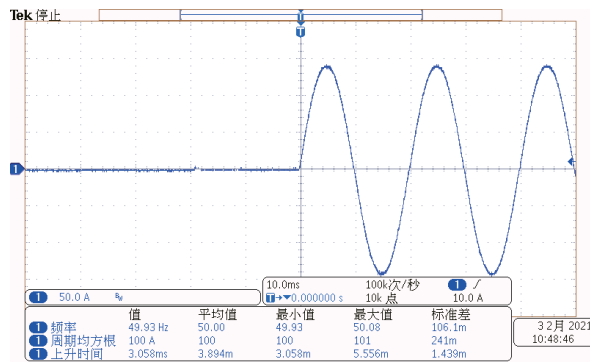
Selection example:

Product model: HY-SCS 3P-10-100-CF

Three-phase output, open circuit voltage 10V, output current 1A-100A, optional user-defined functions

# HY-SCS Series Technical Parameters

The actual measurement of the current rise time of some constant current sources is shown below. The current rise response time is  $\leq 10\text{ms}$ , which can meet the testing requirements of low-voltage electrical transient testing within 10ms.



## AC Output

Working mode	CC Mode
Output capacity	Optional range Max. 1kVA-120kVA
Output current	Optional range 1-12000A
Settable output current range	1%-100%
Open circuit voltage	2.5V/5V/10V/20V/36V/48V (customized)
Output frequency	45Hz-70Hz, optional 320Hz-480Hz, 45Hz-1000Hz (customizable according to customer requirements)
Frequency stabilization accuracy	100ppm
Number of output phases	1Φ/3Φ can be available
Input regulation	$\leq 0.5\%$ F.S. (Note: F.S. means full scale)
Waveform distortion(THD)	Sine wave, I-THD $\leq 2\%$ , resistive test
	Different current models have different distortion rates

## Programming And Readback Accuracy & Resolution

Current Output   Programming Accuracy	1%F.S.
Current Setting   Resolution	0.01A ( $\leq 600\text{A}$ ) , 0.1A ( $> 600\text{A}$ )
Frequency Setting   Resolution	0.01Hz
Current Output   Readback Accuracy	1%F.S.
Current Readback   Resolution	0.01A ( $\leq 600\text{A}$ ) , 0.1A ( $> 600\text{A}$ )

## Protective Function

Open circuit protection	The output shuts down immediately when the open-circuit voltage limit is exceeded
Over temperature protection(OTP)	When the limit is exceeded, the output shuts down immediately

# HY-SCS Series Technical Parameters

Environmental Conditions	
Surroundings	Indoor use; installation overvoltage class: II; pollution class: P2; class II equipment
Working temperature	0°C to 45°C; optional -20°C to 45°C
Storage ambient temperature	-20°C to 65°C
Working environment 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 decreases by 2% for every 100 meters, or the maximum working environment temperature decreases by 1 °C every 100 meters;When not in operation, up to 12,000 meters above sea level
Cool down	Forced air cooling, intelligent speed-adjustable fan, air intake from both sides/front, air out from the rear
Noise	≤ 65dB(A), weighted measurements with 1m

Control Panel	
Display	7 inches, LCD liquid crystal display, touch screen
Show items	Current (set value & measurement value), voltage measurement value, operating time, cumulative operating time, current time and date
Control function	Digital key input, multi-level shuttle knob adjustment (coarse adjustment of outer ring/fine adjustment of inner ring) output ON/OFF switch, Lock keyboard and touch lock, Reset restart status indicator (Shift / Local / Remote / Alarm / Lock / Output)
Programming function	Step/ladder/gradient

Communication Interface	
Standard	RS-485 & RS-232
Options	LAN、CAN、USB、GPIB, analog programming and monitoring interface (isolated)

Appearance Color & Size	
Color	RAL 7035
Size	4U, Standard 19-inch rack, or desktop (with fixed feet); 10U, Standard 19-inch rack type, or floor table (with movable swivel casters and brakes); 18U and above, floor-standing cabinet, with movable swivel casters and brakes.

## Customized Interface

- LAN LAN Communication Interface
- CAN CAN Communication Interface
- USB USB Communication Interface
- GPIB GPIB Communication Interface
- APM analog programming and monitoring interface (isolated)

## Customized Function

- HR High resolution/high precision
- T2 Operating temperature -20°C to 45°C
- CF User-defined functions (please specify when ordering)
- MR Measurement report (issued by a third party certified by CNAS)

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

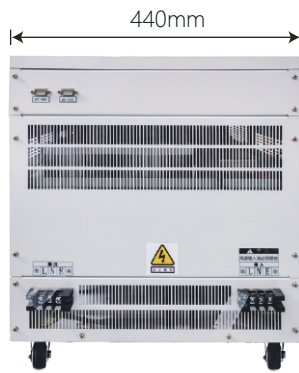
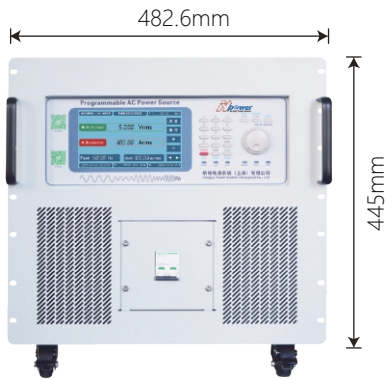


# Appearance & Size

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



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

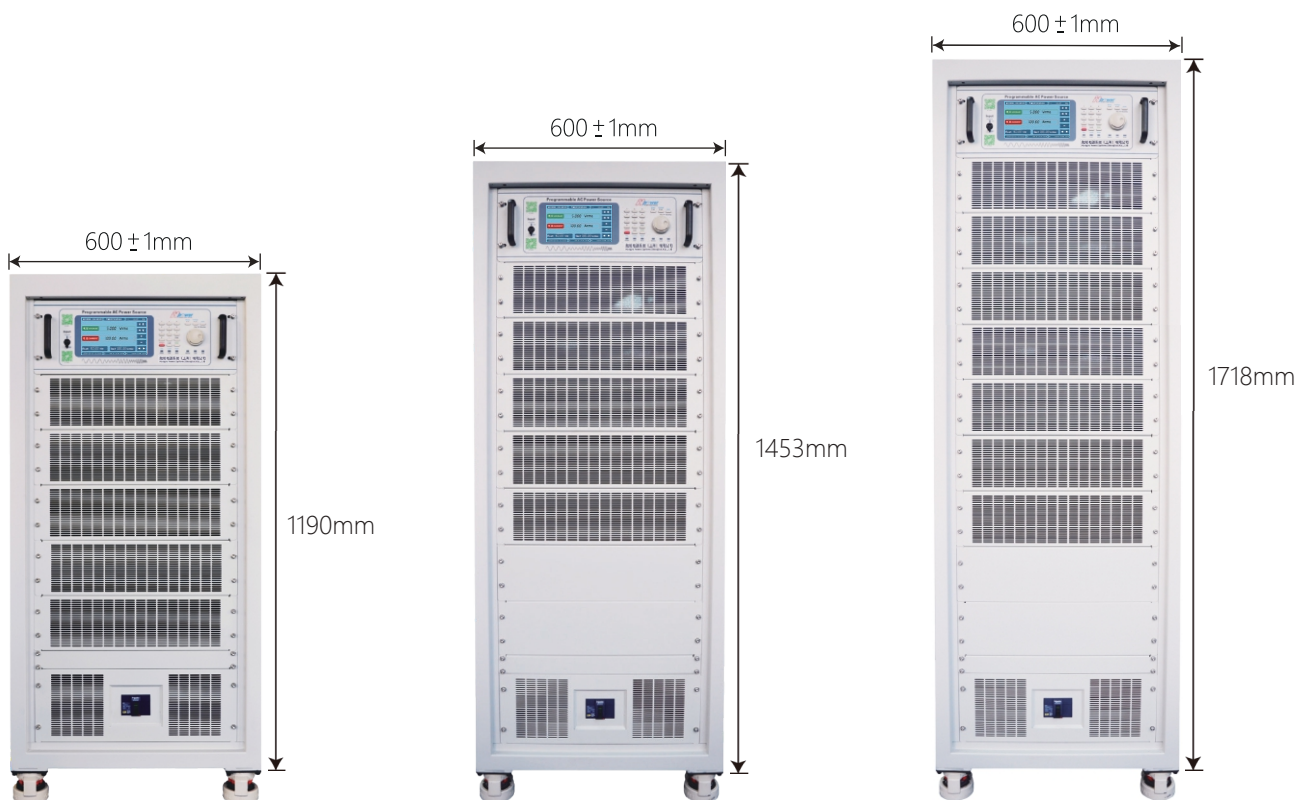


# Appearance & Size

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

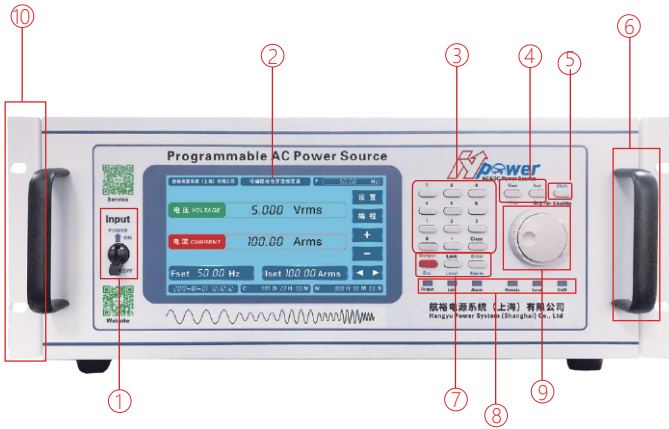


24U 600(W)\*800(D)\*1190(H)mm  
30U 600(W)\*800(D)\*1453(H)mm  
36U 600(W)\*800(D)\*1718(H)mm



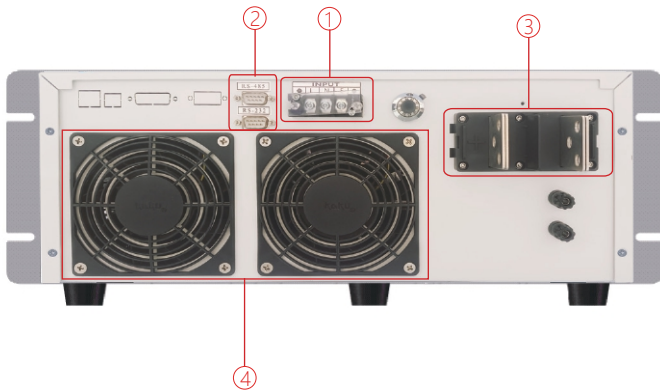
# Display And Control Panel

## Control Panel



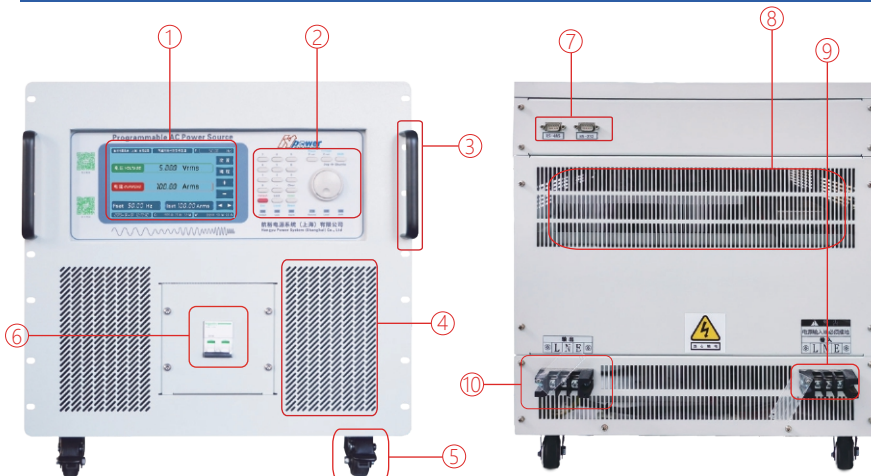
- ① Power input circuit breaker
- ② LCD display (7 inches, touch screen)
- ③ Numeric input keyboard
- ④ Frequency/voltage or current setting key
- ⑤ Shift function reuse key
- ⑥ Chassis handle
- ⑦ Lock Lock, Enter confirm, Esc exit  
Local Local or Reset Restarts  
Output ON/OFF Switch
- ⑧ Status indicator
- ⑨ Multi-stage 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 inches, 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



# 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 Chenguang 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)



中国地震局  
地壳应力研究所  
The Institute of Crustal Dynamics



上海电器科学研究所(集团)有限公司  
Shanghai Electrical Apparatus Research Institute (Group) Co., LTD.



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国家电器产品质量监督检验中心



长春市产品质量监督检验院  
Changchun product quality supervision and inspection institute



西安市产品质量监督检验院  
Xi'an Supervision & Inspection Institute of Product Quality



杭州市质量技术监督检测院

## Military Academies & Local Universities



## High-tech R&D Enterprise





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The warranty period of all standard products in this manual is three years, except non-standard products

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:

