

BI-DIRECTIONAL PROGRAMMABLE DC POWER SUPPLY

S7000 SERIES



Low voltage version

The S7000 Series is a high precision, regenerative DC power source. As a DC source, it supports dual quadrant energy flow, with high conversion efficiency and high power density. It also supports parallel operation of multiple devices. HMI: Colorful touch-screen and knob.

Features

- | Automatic switching of source-load function

| Power output range: 0 ~ 15kW

| Current output range: 0 ~ 600A

| Voltage output range: 0 ~ 100V

| Parallel connection: up to 10 units

| AC voltage input: 342VAC ~ 528VAC

| PV simulation: Static MPPT, Multi-IV, EN50530, etc.

| Automotive power curve: ISO16750-2, LV123, DIN40839, etc.
- | Battery simulation: 6 fixed types, custom type

| Battery charging and discharging test function

| List mode, support multi-step programming

| Custom waveforms: triangle, square, and sine.

| RS232/LAN/USB communication interface

| Protections: OVP, OCP, OTP, OPP, etc.

| Remote voltage compensation

Model Selection

Model	Voltage	Current	Power	Resolution	Accuracy (Voltage/Current)	Size
Normal						
S7000NG-10K-0100-0400	100V	400A	10kW	0.01V/0.01A	≤0.02%F.S./≤0.1% F.S.	3U
S7000NG-15K-0100-0600	100V	600A	15kW	0.01V/0.01A	≤0.02%F.S./≤0.1% F.S.	3U
Pro						
S7000PG-10K-0100-0400	100V	400A	10kW	0.01V/0.01A	≤0.02%F.S./≤0.1% F.S.	3U
S7000PG-15K-0100-0600	100V	600A	15kW	0.01V/0.01A	≤0.02%F.S./≤0.1% F.S.	3U
Ultra						
S7000UG-10K-0100-0400	100V	400A	10kW	0.01V/0.01A	≤0.02%F.S./≤0.01%F.S.	3U
S7000UG-15K-0100-0600	100V	600A	15kW	0.01V/0.01A	≤0.02%F.S./≤0.1% F.S.	3U

Normal
Fundamental,
Cost-effective

Pro
Fully-featured,
Multi-scenario

Ultra
Ultimate experience,
Lab testing-oriented

Features \ Version	Version		
	Normal	Pro	Ultra
Bidirectional DC power supply	★	★	★
IV simulation	-	★	★
Battery simulation	-	★	★
Battery test	-	★	★
Automotive power curve	-	★	★
DC electronic load	-	-	★

Note: "★" means Yes; "-" means not available.

Product Applications

- | Testing grid-connected PV inverters

| Testing PCS

| Testing PV & storage converters

| Testing on-board chargers

| Testing DC charging piles

| Testing motor controllers

| Testing UPS, EPS systems
- | Testing DCDC converters

| Power semiconductor devices

| Military industry, avionics

| Telecom power

| Air compressors

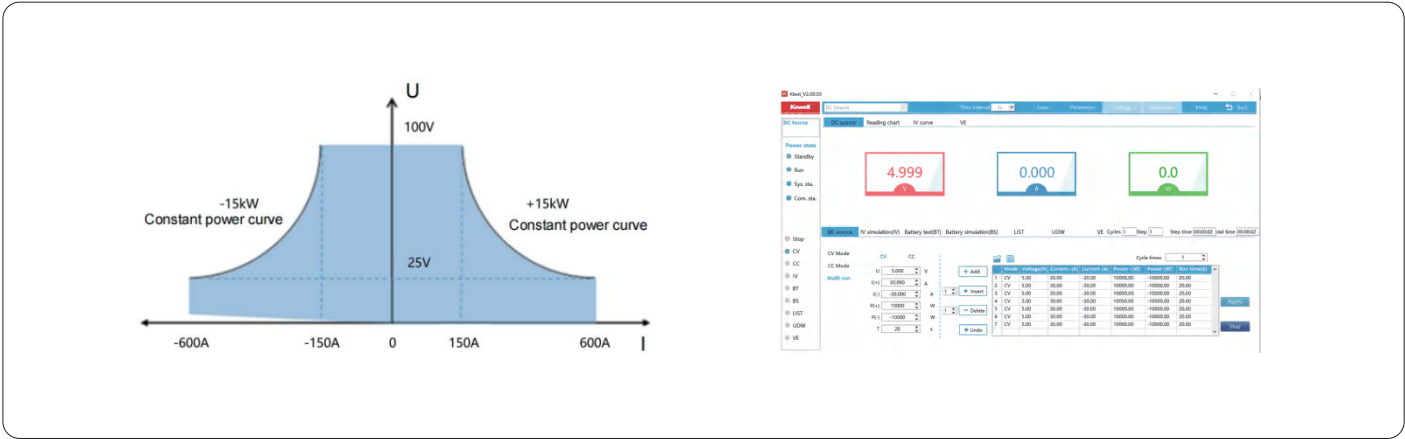
| High voltage contactors

S7000 SERIES BI-DIRECTIONAL PROGRAMMABLE DC POWER SUPPLY

Product Functions

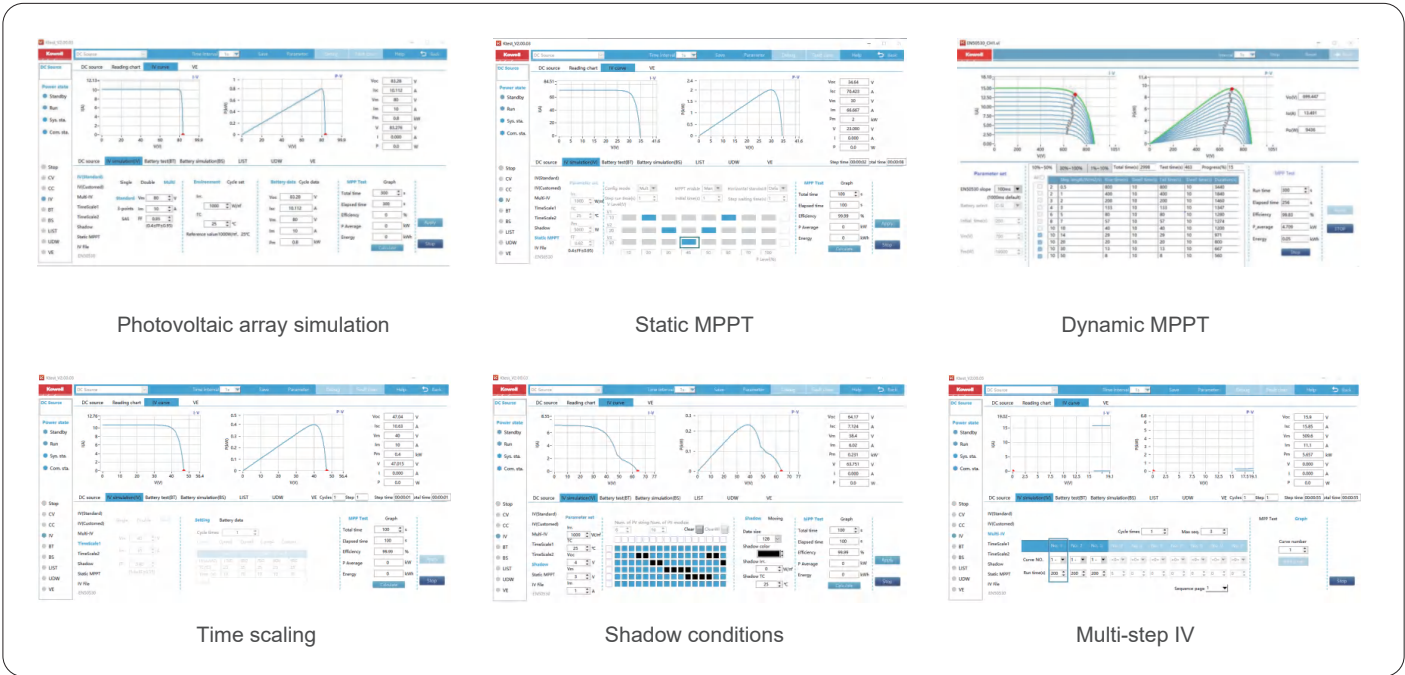
Bi-directional DC Power Supply

S7000 is a bi-directional power supply featuring high-speed switching between source and load modes. S7000 supports up to 999 editable work steps, and work steps can be set in cycles.



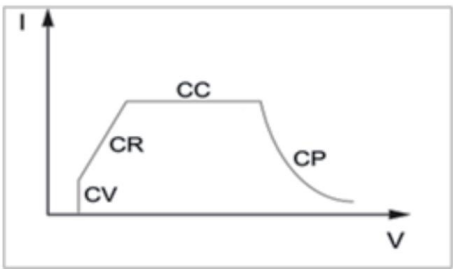
IV Simulation

The S7000 series has a variety of IV simulation capabilities, which make the PV test closer to the real-world conditions. These include single point, double-point and multi-point settings, as well as static and dynamic MPPT, time scaling, shadow conditions, and multi-step IV function.



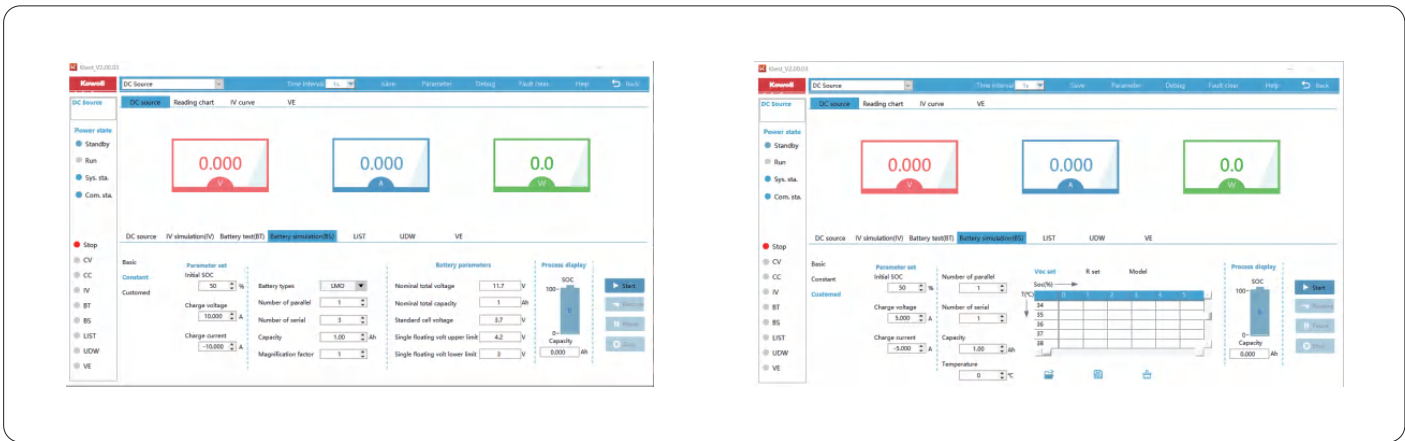
DC Electronic Load

S7000 has the regenerative load function, with basic operation modes: CC, CV, CP, CR and compound operation modes: CV+CC, CV+CR, CC+CR, CV+CC+CP+CR to meet a variety of load test requirements.



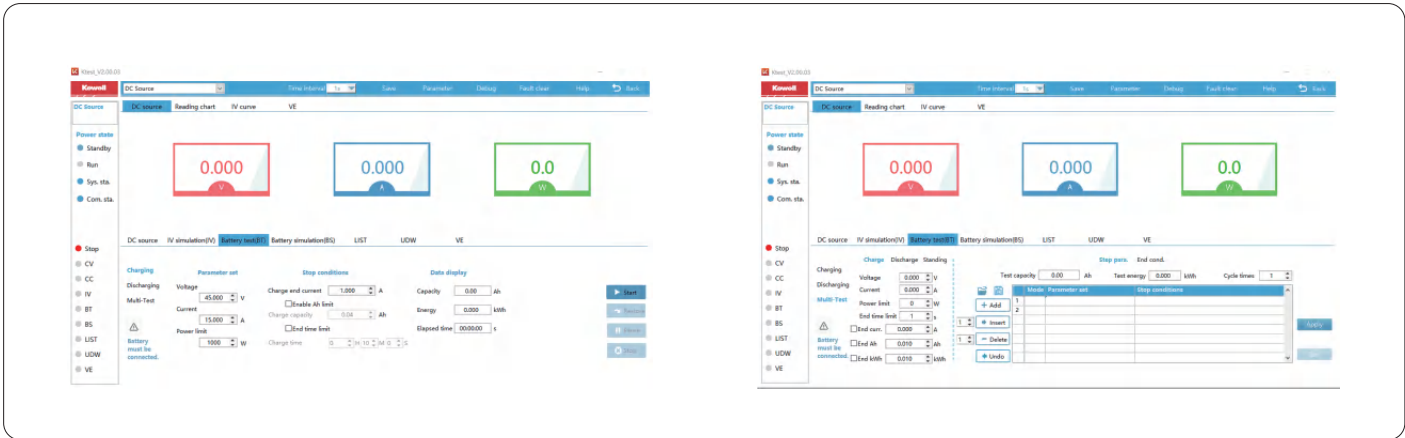
Battery Simulation

S7000 supports fixed battery types and custom battery type. For constant simulation mode, it supports fixed battery types: lithium manganese oxide, lithium cobalt oxide, lithium iron carbonate, nickel-metal hydride batteries, ternary lithium, and lithium titanate. Custom battery type: At a given temperature and SoC, fill in the open circuit voltage and internal resistance, or import the Excel file written in advance, then set other parameters and start running.



Battery Test

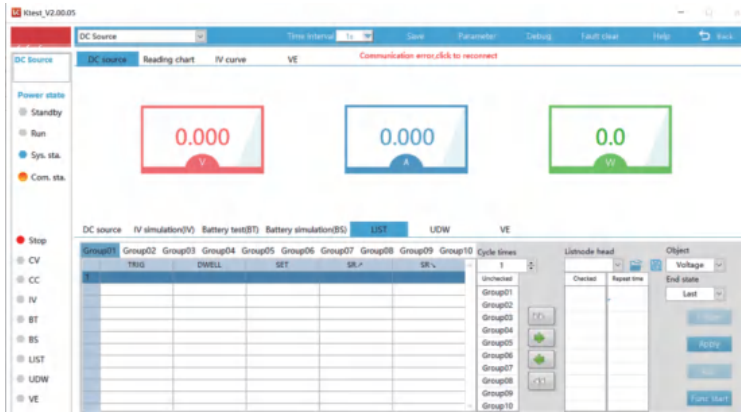
S7000 supports charge mode, discharge mode, and charging and discharging test in multiple modes.



S7000 SERIES BI-DIRECTIONAL PROGRAMMABLE DC POWER SUPPLY

List Mode

List mode supports file programming for 10 groups, each having up to 10 arrays to be edited. Single step time can be set to 1ms at minimum.



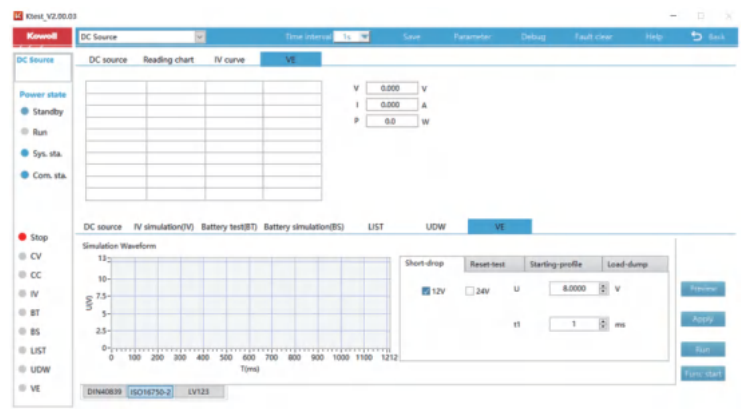
Custom Waveforms

Built-in triangle, square and sine waveforms.



Automotive Power Curve

Built-in industry standards such as ISO16750-2, LV123, DIN40839, etc., one click to call.



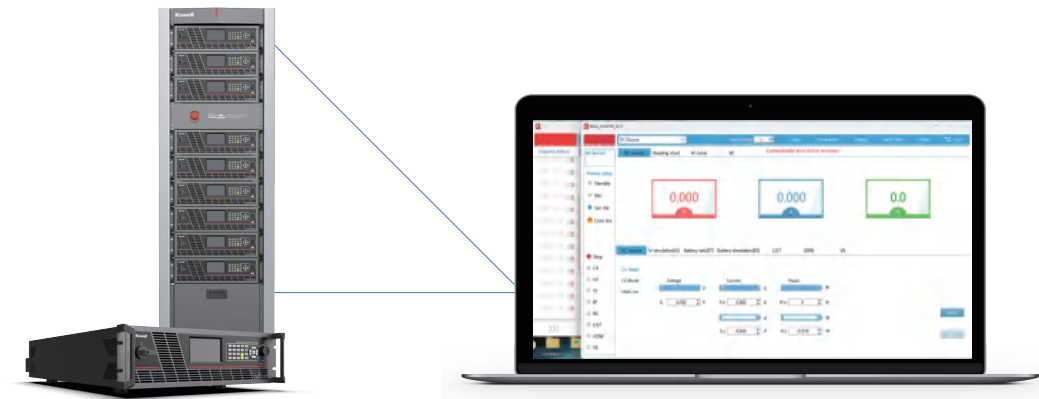
Product Highlights

High Efficiency



Max. power efficiency: **92%**

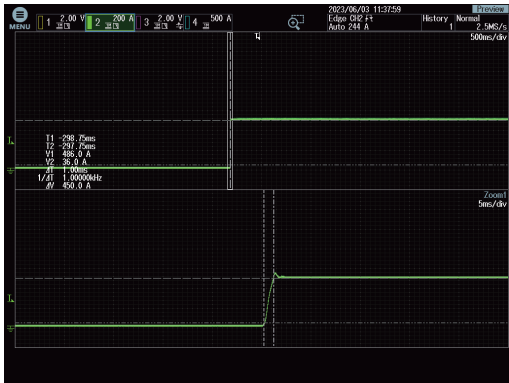
Flexible Paralleling



The maximum power of the S7000 series single machine is 15kW, and through flexible parallel connection of up to 10 devices, the power output can reach 150kW. One computer can control up to 24 devices at the same time.

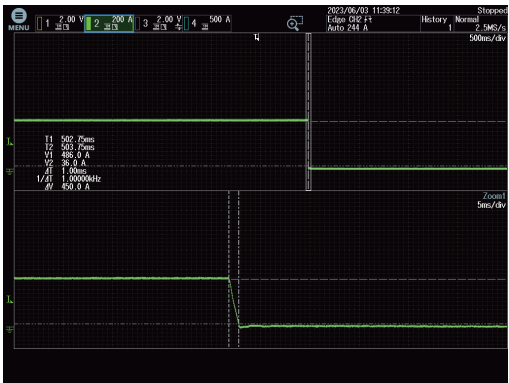
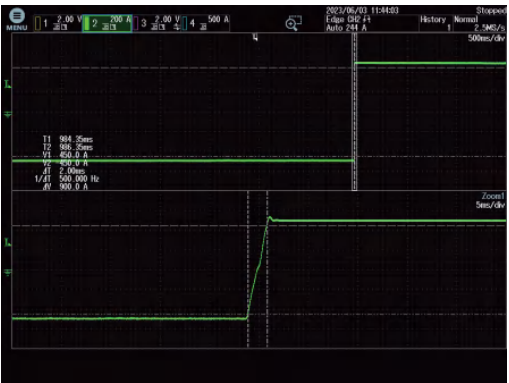
Super Dynamic Performance

- Current slope up to 450A/ms



- High dynamic performance of DC current

The S7000 series current fall slope is adjustable from 0.001A/ms to 450A/ms. High-speed response with response time as short as 500μs.



Parallel Cabinet



Model	Number	Dimensions (W*D*H)	Weight(Cabinet alone)
HK-15U	2~3 devices	610*1026*1006mm	130kg
HK-29U	4~6 devices	610*1026*1554mm	220kg
HK-42U	7~9 devices	610*1026*1999mm	280kg

Standard Accessories



Handles



Parallel Cable



Ethernet Cable(3m)



USB Stick(32G)^①



DC protective cover



AC protective cover



Parallel Communication Module

Note: ① The USB stick contains the software package (license will be provided by Kewell free of charge).

BI-DIRECTIONAL PROGRAMMABLE DC POWER SUPPLY

— S7000 SERIES —



High voltage version

The S7000 Series is a high precision, regenerative DC power source. As a DC source, it supports dual quadrant energy flow, with high conversion efficiency and high power density. In 3U size, it outputs power up to 30kW and voltage up to 2000V. It supports parallel operation of multiple devices. HMI: Colorful touchscreen and knob. S7000 is applicable to testing of battery, battery storage inverter, EV, etc.

Features

- | Automatic switching of source-load function

| High power density: 30kW in 3U

| Power output range: 0 ~ 30kW

| Voltage output range: 0 ~ 2000V

| Parallel connection: up to 20 units

| AC voltage input: 342VAC ~ 528VAC
- | PV simulation: Static MPPT, Multi-IV, EN50530, etc.

| Battery simulation: 6 fixed types, custom type

| Battery charging and discharging test function

| RS485/CAN/LAN/USB communication interface

| Protections: OVP, OCP, OTP, OPP, etc.

| Remote voltage compensation

Model Selection

Model	Voltage	Current	Power	Resolution	Accuracy (Voltage/Current)	Size
Normal						
S7000NG-7K5-0750-0060	750V	60A	7.5kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000NG-15K-0750-0120	750V	120A	15kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000NG-30K-0750-0180	750V	180A	30kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000NG-15K-1500-0060	1500V	60A	15kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000NG-21K-2000-0060	2000V	60A	21kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000NG-30K-2000-0060	2000V	60A	30kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
Pro						
S7000PG-7K5-0750-0060	750V	60A	7.5kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000PG-15K-0750-0120	750V	120A	15kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000PG-30K-0750-0180	750V	180A	30kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000PG-15K-1500-0060	1500V	60A	15kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000PG-21K-2000-0060	2000V	60A	21kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000PG-30K-2000-0060	2000V	60A	30kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
Ultra						
S7000UG-7K5-0750-0060	750V	60A	7.5kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000UG-15K-0750-0120	750V	120A	15kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000UG-30K-0750-0180	750V	180A	30kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000UG-15K-1500-0060	1500V	60A	15kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000UG-21K-2000-0060	2000V	60A	21kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U
S7000UG-30K-2000-0060	2000V	60A	30kW	0.01V/0.01A	≤0.05%F.S./≤0.1% F.S.	3U

Normal
Fundamental,
Cost-effective

Pro
Fully-featured,
Multi-scenario

Ultra
Ultimate experience,
Lab testing-oriented

Version	Normal	Pro	Ultra
Features			
Bidirectional DC power supply	★	★	★
IV simulation	-	★	★
Battery simulation	-	★	★
Battery test	-	★	★
DC electronic load	-	-	★

Note: "★" means Yes; "-" means not available.

Product Applications

- Testing grid-connected PV inverters

Testing PCS

Testing PV & storage converters

Testing on-board chargers

Testing DC charging piles

Testing UPS, EPS systems
- Testing motor controllers

Testing DCDC converters

Power semiconductor devices

Military industry, avionics

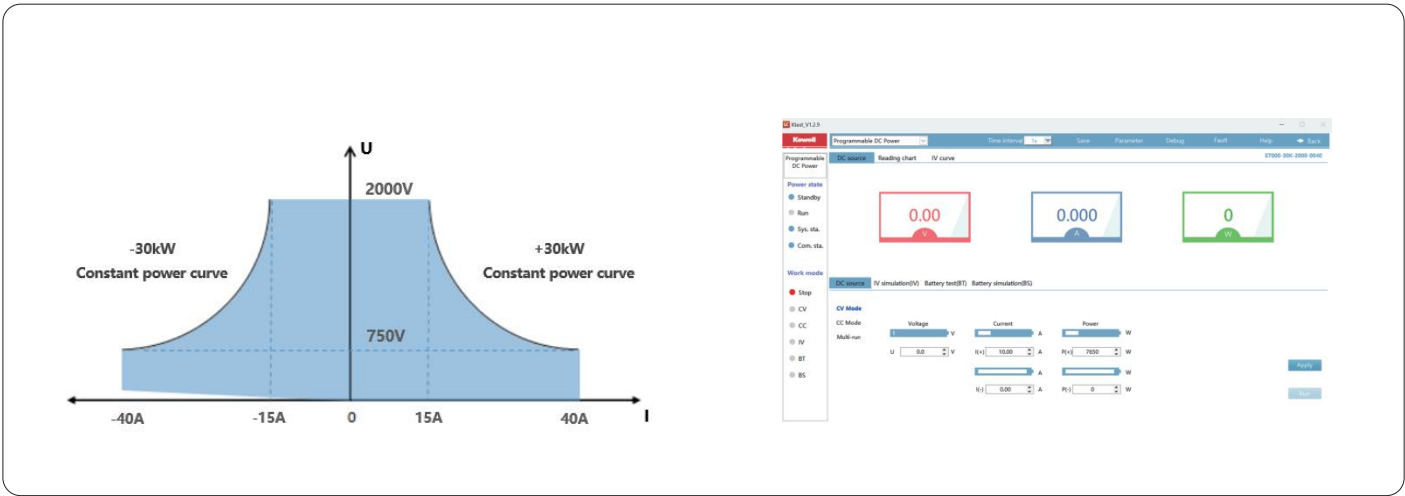
Telecom power

Air compressors

Product Functions

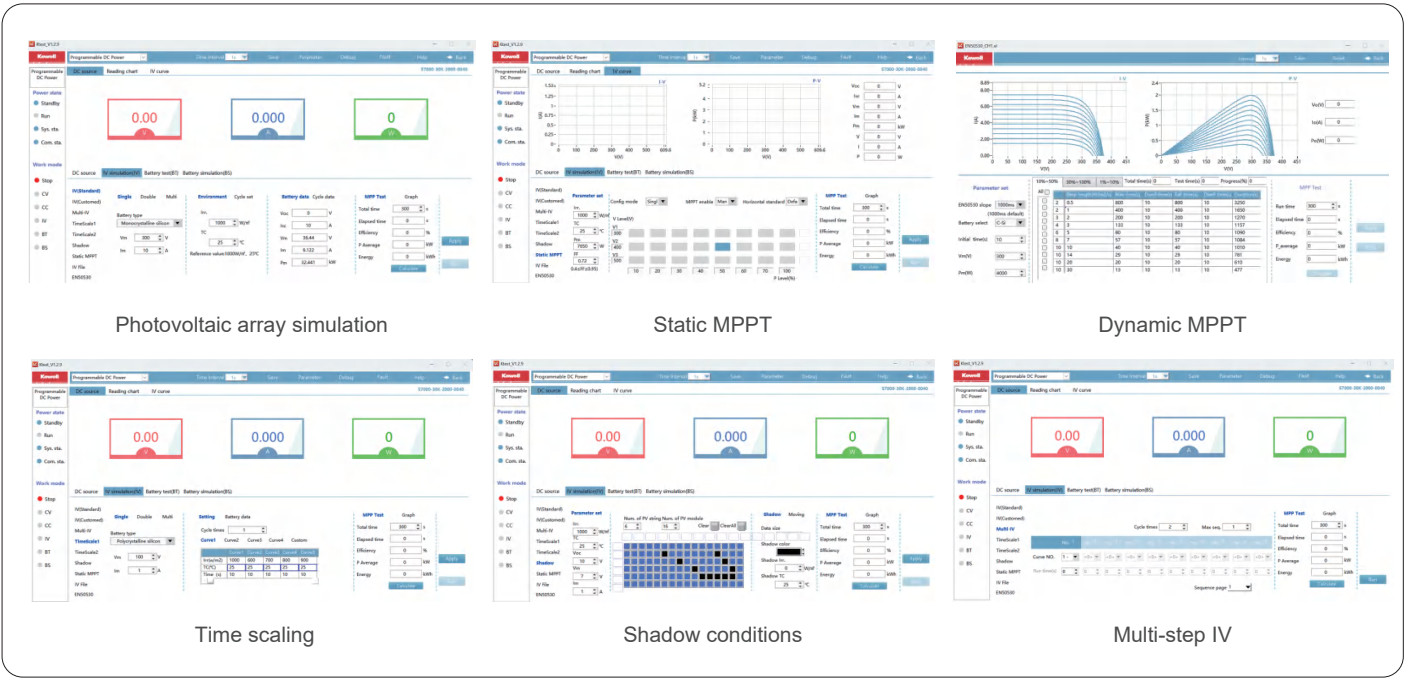
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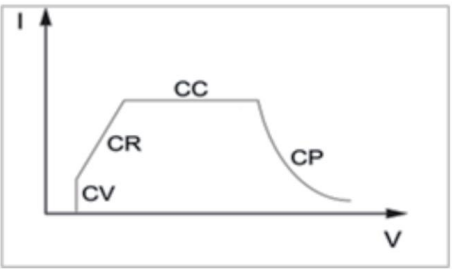
IV Simulation

The S7000 series has a variety of IV simulation capabilities, which make the PV test closer to the real-world conditions. These include single point, double-point, multi-point settings, as well as static and dynamic MPPT, time scaling, shadow conditions, and multi-step IV functions.



DC Electronic Load

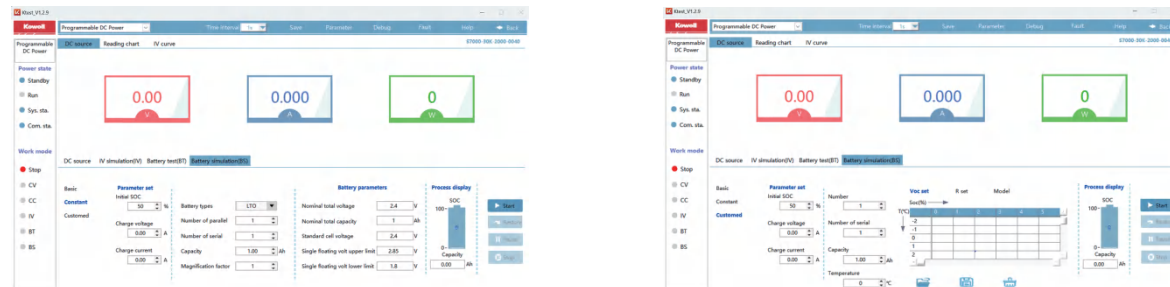
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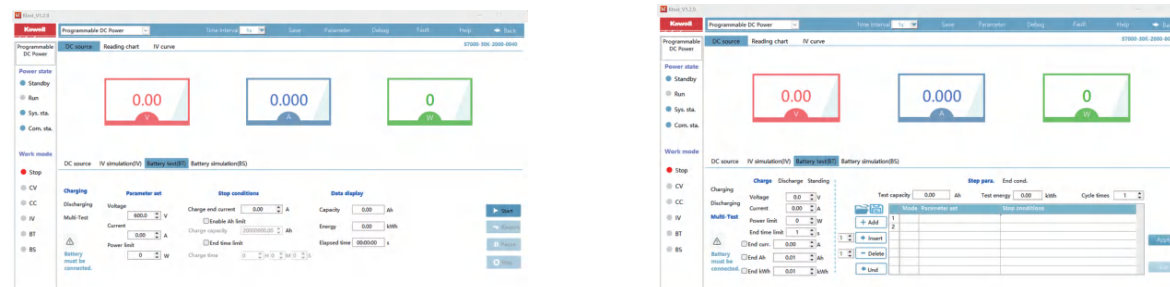
Battery Simulation

S7000 supports fixed battery type and custom battery type. For constant simulation mode, it supports fixed battery type: lithium manganese oxide, lithium cobalt oxide, lithium iron carbonate, nickel-metal hydride batteries, ternary lithium, lithium titanate. Custom battery type: At a given temperature and SoC, fill in the open circuit voltage and internal resistance, or import the Excel file written in advance, then set other parameters and start running.



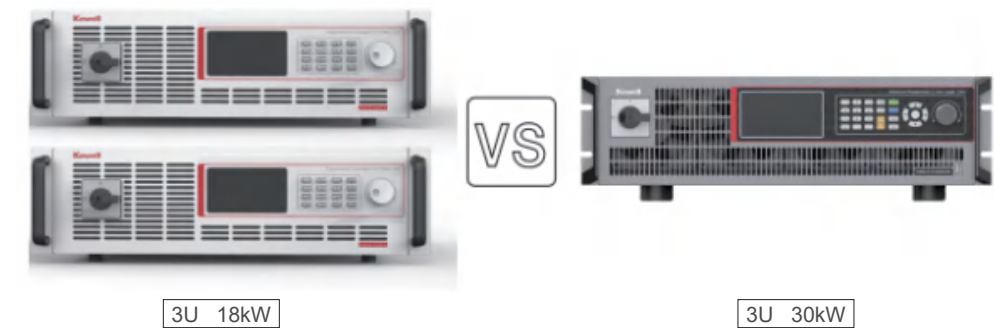
Battery Test

S7000 supports charge mode, discharge mode, and charging and discharging test in multiple modes.



Product Highlights

High Efficiency



30kW in 3U, up by 67% compared to the conventional 18kW DC power supply in the industry!

Ultra-high Efficiency



Max. efficiency: about 95%

S7000 SERIES BI-DIRECTIONAL PROGRAMMABLE DC POWER SUPPLY

Flexible Paralleling



The maximum power of the S7000 series single machine is 30kW, and through flexible parallel connection of up to 20 devices, the power output can reach 600kW. One computer can control up to 12 devices at the same time.

Super Dynamic Performance

- Voltage slew rate $\geq 200\text{V/ms}$



- High dynamic performance of DC voltage output

The S7000 series voltage fall slew rate is adjustable from 0.001V/ms to 200V/ms. High-speed response with response time as short as 1ms.



Parallel Cabinet



Model	Number	Dimensions (W*D*H)	Weight(Cabinet alone)
HK-15U	2~3 devices	610*1026*1006mm	130kg
HK-29U	4~6 devices	610*1026*1554mm	220kg
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Standard Accessories



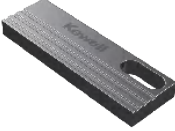
Handles



Ethernet Cable(0.8m)



Ethernet Cable(0.25m)



USB Stick(32G)^①



Ethernet Cable(3m)



DC protective cover



AC protective cover

Note: ① The USB stick contains the software package (license will be provided by Kewell free of charge).