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Ideal Power Solution

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CSP – 3KW Series Programmable DC Power Supply

- Rated power range: 3KW
- Rated voltage range: 30V / 40V / 50V / 60V / 100V / 125V / 150V / 200V / 300V / 600V
- 5 - digit display voltage and 4 - digit current display, with a maximum resolution of 1mV and 1mA.
- High programming accuracy, high output accuracy, and low ripple noise.
- Excellent dynamic response time <10ms.
- Output start - up without overshoot, and can set the rising slope of voltage and current.
- Real-time power display.
- RS232 / RS485 communication interface.



Overview

CSP-3KW DC power supply is a programmable DC power supply with 3KW rated output power built in a 19-inch 2U standard rack-mounted chassis. The output voltage levels, at 30Vdc / 40Vdc / 50Vdc / 60Vdc / 100Vdc / 125Vdc / 150Vdc / 200Vdc / 300Vdc / 600Vdc. The adoption high frequency switching topology based on IGBT device gives high efficiency and high switching speed features of switching DC power supplies, and the digital control circuit with a built-in microprocessor gives the intelligent output capability of programmable DC power supplies.

The 3KW programmable power supply uses silica gel buttons and a stepless knob on control panel for power supply programming control. The 4.3-inch LCD provides intuitive and real-time output reading and monitoring of power supply. The standard RS485 interface conforming to the MODBUS-RTU international protocol can realize the remote control programming of the programmable DC power supplies.

At the same time, the 3KW programmable DC power supply has perfect protection functions and can withstand long-term continuous operation. It is the best choice for research units and laboratories as an adjustable DC power supply or production line as a product life test power supply.

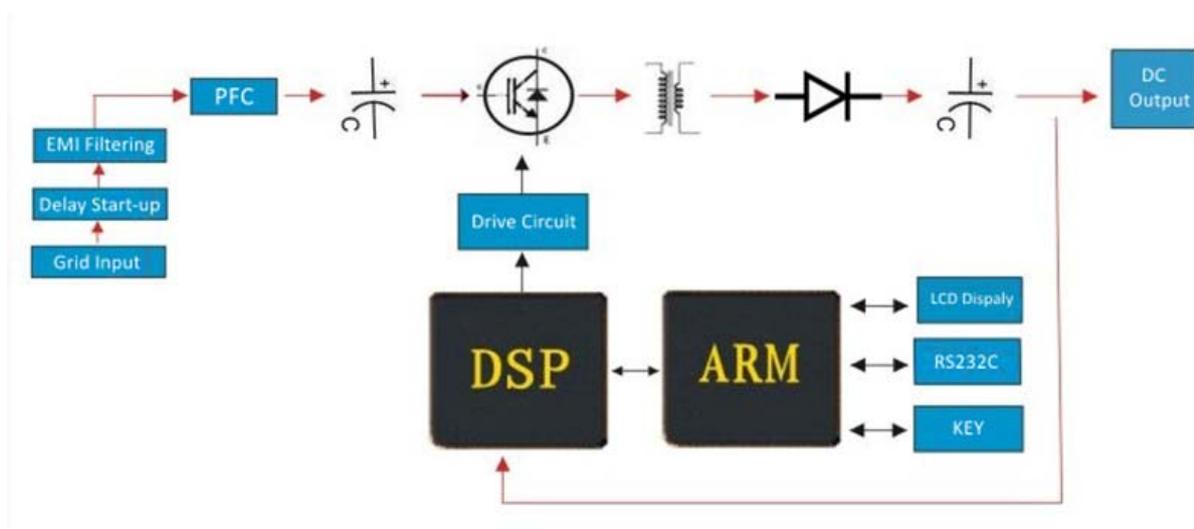
Features

- The power supply chassis is produced using laser technology, with unique color matching and excellent baking paint production technology, which gives the power supply generous and elegant appearance.
- The internal circuit boards of power products all produced by PCBA and DIP process, to reduce human faults. The production adopts process inspection for each step, which reduces the defective assembly rate and further improves product reliability.
- Firm and reliable internal structure design and high-quality packaging reduce the probability of damage that may be caused by transportation.
- The power supply adopts LCD display, preset voltage / current values, output voltage / current values, real-time power, local / remote working mode & start / stop status are all

displayed on LCD interface, which is convenient for customers to control & monitor the status of DC power supply.

- High display accuracy: 0.1% voltage display accuracy in CV mode, 5 digits voltage display with minimum 1mV resolution; 0.2% current display accuracy in CC mode, 4 digits current display with minimum 1mA resolution.
- The power supply can be used as a constant current source for its low output current ripple while ensuring low voltage ripple.
- The power supply voltage and current have almost no starting impact, and the power output dynamic response time is excellent
- With output programming function, you can edit step waveforms, pulse waveforms, etc., and the rising slope of the voltage and current.

Block diagram



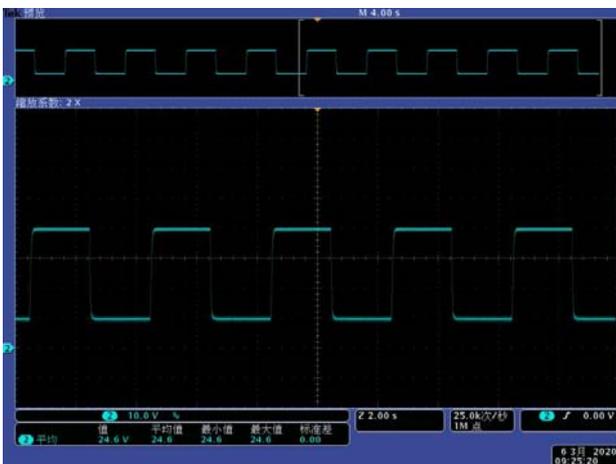
Applications

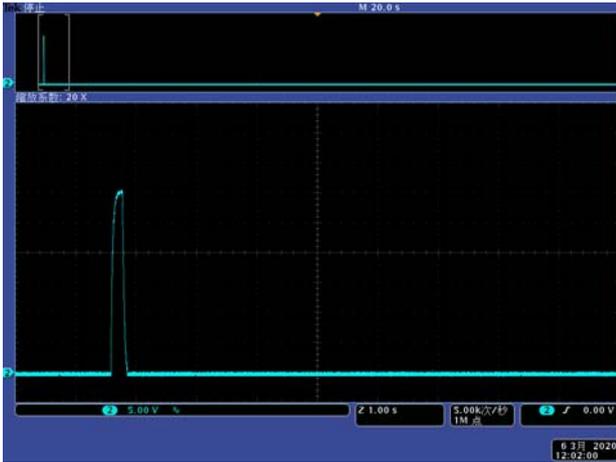
- LED and energy-saving lamps aging test.
- Switching power supply and power adapter aging test.
- Photovoltaic inverter aging test.
- Aerospace and national defense industry.
- Testing and aging of electric vehicle motors, controllers, and DC motors
- Capacitors, resistors, relays, transistors, sensors and other electronic devices.
- Electrolytic, electroplating, and corroded aluminum foil processing.
- LCD, touch screen test.
- Automotive electronics, DC motor, motor controller, cigarette lighter, audio and video burn-in test.

Featured functions

Programming function

The power supply has output programmable function for 10 groups of different parameters and the number of cycles. Such as initial voltage/current value, final voltage/current value, hold time and other parameters setting. And, it can realize multi-step continuous output, single-step output and cyclic output functions. Different modes such as voltage step and voltage sequence can also be realized.



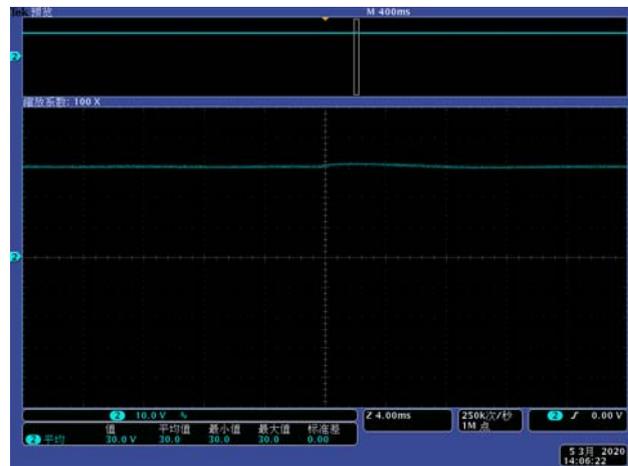


- The voltage and current are settable within the full range.
- The holding time setting range: 1S~10000S
- The number of cycles: 1~65535
- The programming mode ON/OFF can be set through the parameter setting interface. In the programming mode, the normal voltage and current parameter settings are invalid.

Excellent dynamic response speed



Output dynamic response waveform under 10% ~ 50% load change



Output dynamic response waveform under 50% ~ 10% load change

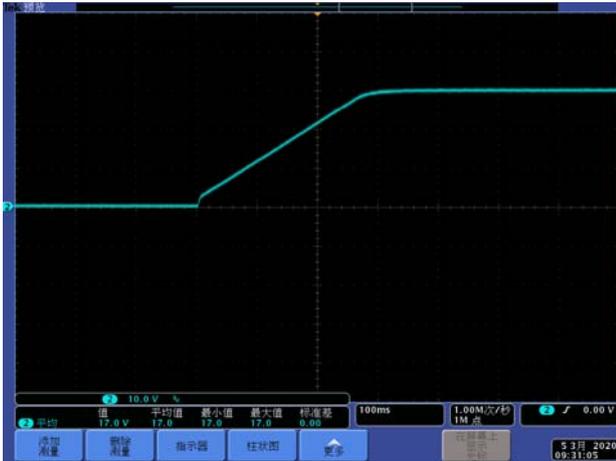


Output dynamic response waveform under 50% ~ 90% load change



Output dynamic response waveform under 90% ~ 50% load change

No overshoot at output start-up & Settable output voltage and current rising slope



300ms rising time



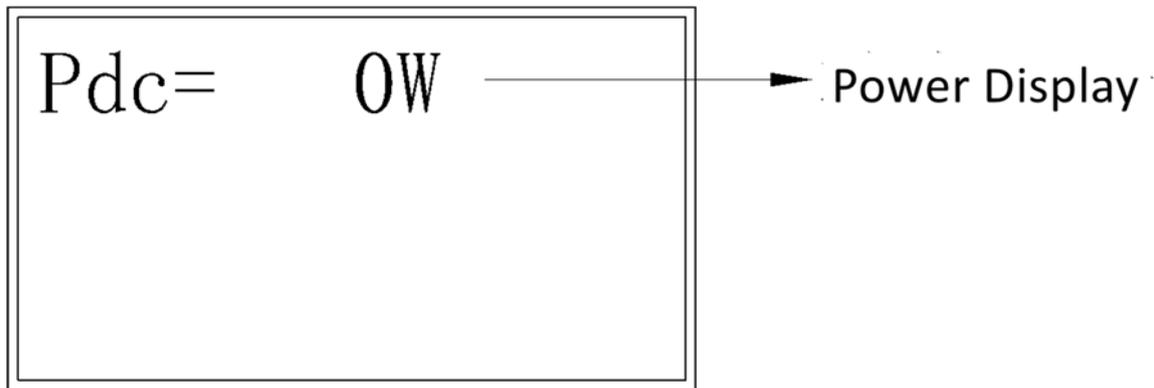
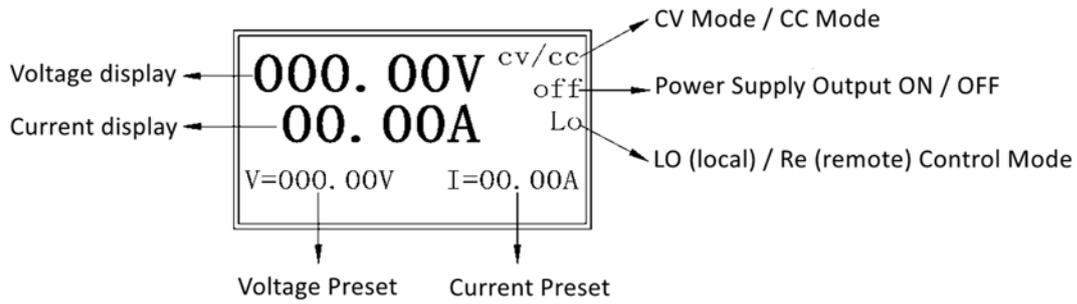
1000ms rising time

Ultra-high output display accuracy



Comprehensive information LCD display

Preset voltage/current value; output voltage/current value; real time power; local/remote control working mode; power supply start/stop status information can be displayed in the LCD on the power supply front panel at the same time, which is convenient for customers to monitor the status of the DC power supply.



Specifications

Input	Phase	Single – phase	
	Voltage	220Vac \pm 10%	
	Frequency	50Hz/60Hz	
	Power factor	> 0.92	
Output	DC Voltage	Accuracy	< 0.2% of rated value (CV mode)
		Load regulation (0 ~ 100% load variance)	< 0.05% of rated value
		Line regulation (\pm 10% Δ UAC)	< 0.05% of rated value
		Regulation time (10% ~ 100% load variance)	< 10ms
		Rise time from 10% to 90% loading	< 100ms ~ 10s
	DC Current	Accuracy	< 0.3% of rated value (CC mode)
		Load regulation (1% ~ 100% load variance)	< 0.15% of rated value
		Line regulation (\pm 10% Δ UAC)	< 0.05% of rated value

	DC Power	Accuracy	<0.5% of rated value
Isolation withstand voltage		AC Input to Shell	1500VDC
		AC Input to Output	1500VDC
		DC Output to Shell	500VDC
Protection functions			Output voltage – limiting protection, output current – limiting protection, output power – limiting protection and over temperature protection
Communication port			RS232 or RS485 In line with MODBUS-RTU standard.
Cooling method			Forced air cooling
Working temperature			-5℃ ~ 45℃
Storage temperature			-20℃ ~ 60℃
Relative humidity			< 80%(non-condensing)
Size (W*H*D) (mm)			425*88*420
Weight			Approx. 12Kg

Power Supply Front and Rear Panels Description

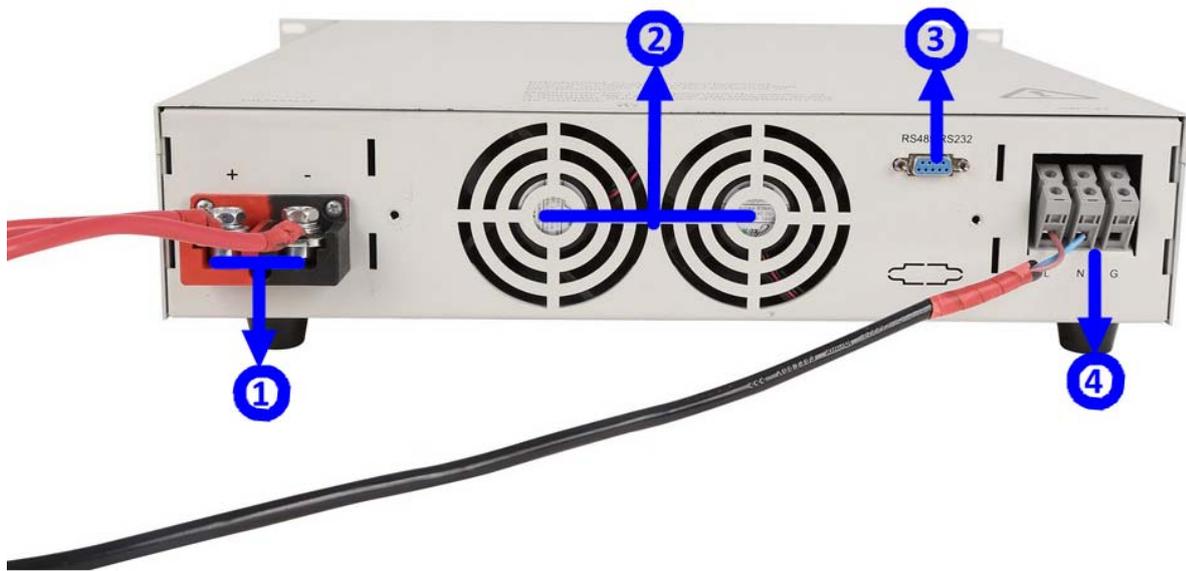
Front panel description



Key button identification	Key button description
CV	Switch to power supply output voltage value setting

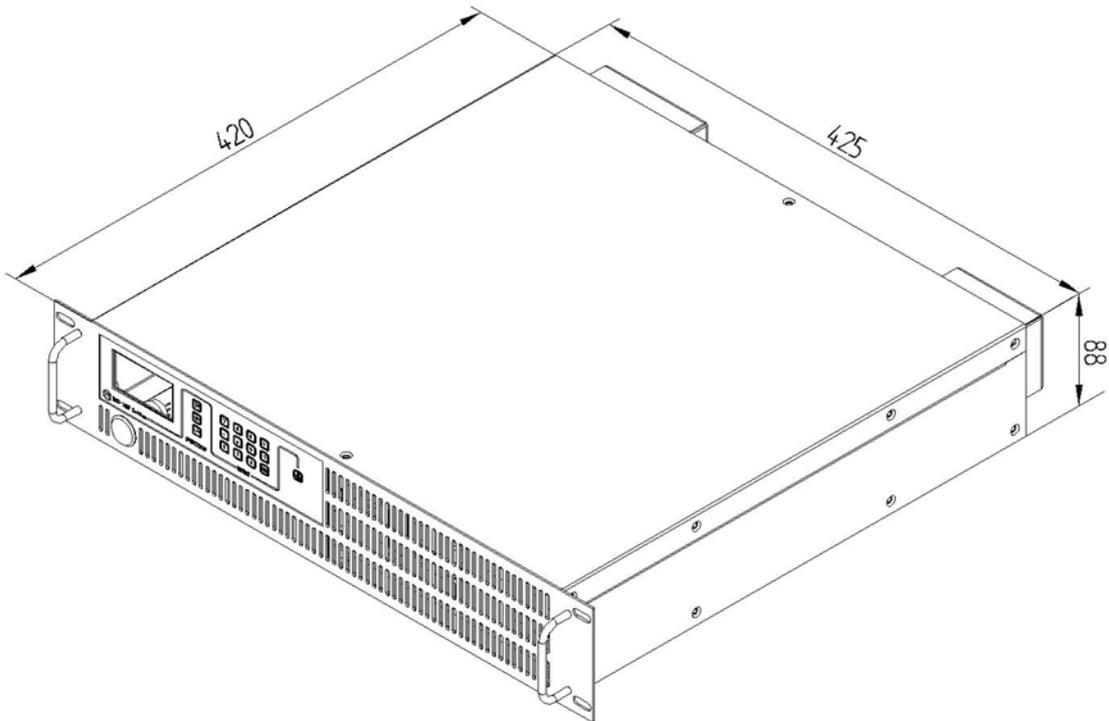
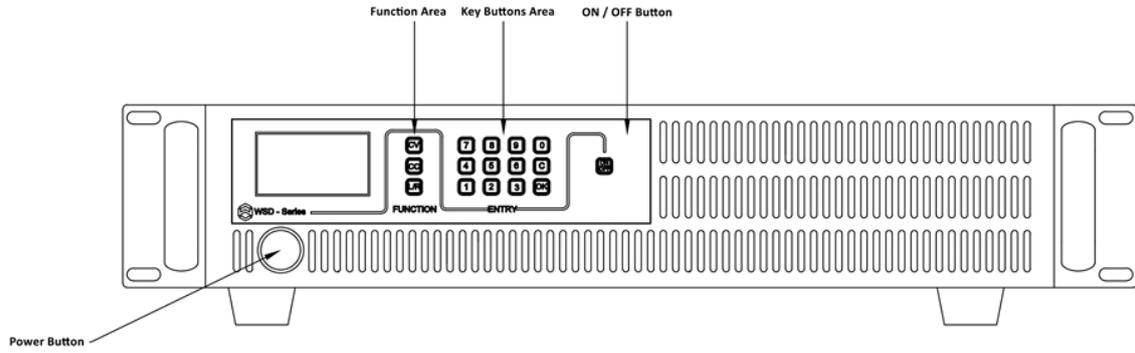
CC	Switch to power supply output current value setting
L/R	Local / Remote control switching
0~9	Number key buttons
C	Return key button
OK	Enter key button
ON/OFF	Power supply output ON / OFF control

Rear panel description



No.	Description
1	DC output terminal, red is positive pole and black is negative pole.
2	The cooling fan air duct, NO blocking!
3	RS485 / RS232 communication interface
4	AC power connection terminal, make sure of well grounding.

Power Supply Chassis Drawing



Standard model list									
Model	CSP3010H	CSP4075	CSP5060	CSP6050	CSP10H30	CSP15H20	CSP20H15	CSP30H10	CSP60H05
Rated power	3KW								
Rated voltage	30.000V	40.000V	50.000V	60.000V	100.00V	150.00V	200.00V	300.00V	600.00V
Rated current	100.0A	75.00A	60.00A	50.00A	30.00A	20.00A	15.00A	10.00A	5.000A
Voltage Ripple	Vrms < 0.3%								

Installation environment

- Ambient temperature: Please have the power source working in safe temperature range (0°C ~ 45°C) or it would affect life of power source.
- Please install the power source at least 50cm distant from surroundings to have better ventilation.
- Please install the power source away from vibration (less than 0.6G), especially equipment like puncher.
- Keep the power source away from direct sunshine, humidity or place with water globule.
- Keep the power source from corrosive, flammable & explosive gas.
- Keep the power source away from oil stain, dust & metallic dust.