

BP7 Series

Variable Frequency Power Supply

The BP7 Series variable frequency power supply is a high-performance device that can simulate the voltage and frequency of power grids worldwide. It is suitable for R&D and production testing in industries such as home appliances, motors, power tools, and aerospace.

The BP7 Series features ultra-low output voltage THD%, 3x overload capacity, and list programming functionality. It is equipped with a visual touchscreen HMI for easy operation and rich information display. Optional remote communication interfaces including RS232, RS485, and Ethernet are available to enable real-time monitoring of the power supply's operating status.



⚡ Features

- › 7-inch true-color touchscreen for easy operation.
- › Up to 3x overload capacity, significantly reducing the required power supply capacity for motor loads.
- › Voltage waveform distortion as low as 1%, delivering superior waveform quality.
- › Standard programming function to fully realize programmable variable frequency power supply capabilities.
- › Standard soft-start function to effectively solve the problem of excessive motor starting current.
- › RS232 interface as standard, with optional RS485 and Ethernet interfaces.
- › Automatic fan speed control for lower noise.

Product Application



Home Appliances



Electric Motors



Electric Tools



Import and Export
Equipment



LED



Compressor



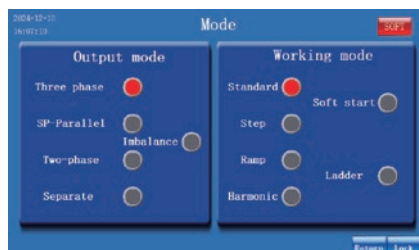
Scientific Research
Institutions



Avionics

Multiple Programming Functions

It offers 3 programming modes: step, ramp, and staircase, fully realizing programmable power supply capabilities to meet regulatory testing requirements. It is especially suitable for cyclic durability testing of home appliances and appliance motors.



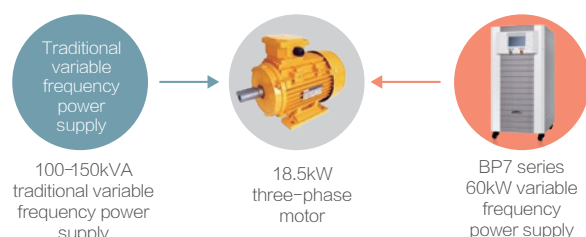
Large-size Touchscreen Control

It adopts a 7-inch true-color touchscreen, featuring a large high-definition display window and a user-friendly human-machine interface (HMI).



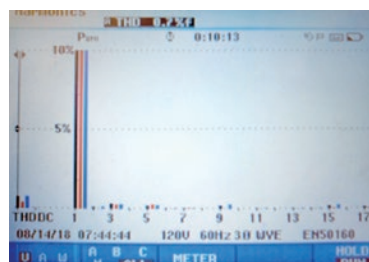
Exceptional Overload Capacity

It features an overload capacity of up to 3 times the rated value for 2 seconds, allowing a power supply of the same capacity to start higher-power motor loads, which significantly reduces testing costs. Tests have shown that a 60kVA BP7 variable frequency power supply can directly start a 18.5kW motor (with a starting power of 185kW).



Ultra-Low Waveform Distortion

The lower the distortion, the closer the output voltage is to the standard sine wave. When the output phase voltage of the BP7 series variable frequency power supply is within the range of 220V/110V $\pm 15\%$, it can achieve a THDu (Total Harmonic Distortion of Voltage) $\leq 1\%$.



Output Modes (Three-Phase Output Models)

The BP7 series variable frequency power supply (three-phase output models) features 5 output modes, including standard three-phase, parallel single-phase, ANSI two-phase, and three-phase independent phase unbalance. It can simulate various grid conditions, realizing the function of "one machine for multiple uses".

Harmonic Modes (Three-Phase Output Models)

The unit comes with 30 built-in harmonic-superimposed waveforms, enabling it to simulate various harmonic conditions in the power grid.

Single-Phase Output Models

Model	Voltage	Current (Low/High Grade)	Power	Dimensions (W×D×H) mm
BP7010	Single-phase 0-300V	90A/45A	10kVA	470 × 875 × 700
BP7015		136A/68A	15kVA	
BP7020		182A/91A	20kVA	
BP7030		272A/136A	30kVA	530 × 1010 × 800
BP7045		408A/204A	45kVA	
BP7060		544A/272A	60kVA	

⚡ Three-phase output products

Mode	Voltage	Current (low/high)	Power	Size (W*H*D) mm
BP7315	Phase voltage 0—300V Line voltage 0—520V	45A/22.5A	15kVA	600 × 1135 × 1010
BP7330		90A/45A	30kVA	
BP7345		136A/68A	45kVA	700 × 1385 × 1240
BP7360		182A/91A	60kVA	
BP7390		272A/136A	90kVA	750 × 1445 × 1385
BP73120		362A/181A	120kVA	
BP73150		454A/227A	150kVA	800 × 1845 × 1450
BP73180		545A/272A	180kVA	
BP73240		724A/362A	240kVA	800 × 2000 × 1450
BP73300		908A/454A	300kVA	

⚡ Technical Parameters

Input frequency			50Hz/60Hz ± 5%
Output	Output mode		Three-phase standard mode, parallel single-phase mode, American standard two-phase mode, three-phase independent mode, three-phase unbalanced mode
	Output voltage	Range	Phase voltage: Low range: 0-150V, High range: 0-300V
		Error	± (0.2% of reading + 0.2% of full scale)
	Output frequency		40-70Hz adjustable, fixed points at 100Hz, 120Hz, 200Hz, 240Hz
Frequency stability			< ± 0.1%
Transient recovery time			≤ 20ms
Source effect/load effect			≤ 1%
Waveform distortion			< 1% (High/low range voltage: 220V/110V ± 15%, resistive load)
Overload capacity			100% ~110% for 5min; 110% ~150% for 1min; 150% ~200% for 5S; 200% ~300% for 2S; ≥300% immediate output shutdown
Protection function			Automatic protection and alarm display for overvoltage, overcurrent, overload, overtemperature and short circuit
Display	Display mode		7-inch touch screen display
	Output voltage		Resolution: 0.1V; Display accuracy: ± (0.2% of reading + 0.2% of full scale)
	Output current		Resolution: 0.01A; Display accuracy: ± (0.3% of reading + 0.3% of full scale)
	Output frequency		Resolution: 0.1Hz; Display accuracy: ± 0.1%
	Output power		Resolution: 0.01kW; Display accuracy: ± (0.45% of reading + 0.45% of full scale)
Features	Shortcut Settings		10 sets of voltage/frequency presets with customizable settings
	Programming function		Step mode, ramp mode, step-ramp mode
	Soft start function		Configurable initial voltage, operating voltage and rise time; rise time adjustable from 1-99S
	Communication function		Standard RS232; optional RS485 and Ethernet communication
	Resistance compensation		0.000-0.500Ω
Security	Insulation impedance		≥ DC500V, 10MΩ
	Voltage insulation		DC2100V, 10mA, 60S
Cooling mode			Forced air cooling
Environment	Operating temperature		0-40℃
	Relative humidity		0-90% (non-condensing)
	Altitude		< 1500m (altitude)