

VFP Variable Frequency Power Supply

Overview

VFP series variable frequency power supply equipment is specially designed and manufactured for the harsh use environment of port wharf, floating dock, ship, offshore drilling platform, etc. It is widely used in high-quality frequency and voltage stabilized power supply which needs to convert between 50 Hz and 60 Hz. This series of power supply adopts modular design. The internal PCB adopts coating curing treatment, and the sine wave filter and output transformer are impregnated in insulating paint and sprayed with high-temperature protective paint, which provides high insulation level and protection ability. The product meets the technical specification of wharf shore power facilities construction and the requirement of China Classification Society.

Product features

- Fully digital control:
The system adopts the latest digital processor to implement full digital control on each power conversion unit of the power supply, which has the advantages of fast speed, high precision and higher system stability. It can make the shore power supply complete the seamless switching from ship to shore and from shore to ship.
- Simple structure and convenient maintenance:
The modular design of internal power unit makes it easy to install, maintain and operate.
- Friendly human-machine interface:
With large screen LCD and LED, the man-machine interface service is convenient, and power supply running status, parameters and alarm information are clear at a glance.
- Green, efficient, energy saving:
High power variable frequency power supply input can adopt high power factor active rectification. The input harmonic and power factor are close to 1, which meet the requirements of energy saving and environmental protection.
- Strong anti-interference ability:
Using the optical fiber drive control technology, the system has strong anti electromagnetic interference ability and reliability.
- High reliability:
With Perfect protection design, the transformer is impregnated in insulating paint and sprayed with high-temperature protective paint, and the PCB adopts three-proof process, which provide good dust and moisture resistance and durability. The improved air duct maximizes the potential of the air cooling system, and the internal heat is released quickly to ensure the long-term reliable operation of the whole machine.
- Perfect protection function:
With over-voltage, under voltage, over current, phase loss, over heating protection and alarm.
- With remote monitoring function, real-time display of power supply running status.

Product function

- With local / remote start, stop and other functions.
- Alarm function: including input over / under voltage alarm, output over / under voltage alarm, overload warning / alarm, over temperature alarm, short circuit alarm, alarm can be silenced.
- Protection function: including input over / under voltage protection, output over / under voltage protection, overload protection, over temperature protection, short circuit protection.
- Display function: it can display input voltage, input current, output voltage, output current and alarm information.
- Communication function: it provides one-way CAN interface, one-way RS485 interface and one way dry contact output.

Product composition

Variable frequency power supply mainly consists of input and output circuit breaker, reactor, frequency conversion unit, sine filter, output transformer, etc.

Product composition

VFP series marine static shore power supply is divided into outdoor type and indoor type. Users can choose different capacity and different working mode according to different use environment. The Indoor power supply is generally installed in the substation room or cabin near the shipyard. The outdoor type is generally installed on the quayside and ship deck to provide power supply for ships requiring frequency conversion power supply.

Technical Index

Type		VFP												
Capacity		100 kVA	150 kVA	200 kVA	300 kVA	400 kVA	500 kVA	630 kVA	700 kVA	800 kVA	1000 kVA	1250 kVA	1600 kVA	2000 kVA
Input characteristic	Voltage	3P AC380V±10%, 3P AC440V±10%												
	Frequency	50/60Hz												
	Rectification mode	6-pulse rectifier , 12-pulse rectifier , PWM rectifier												
Output characteristic	Voltage	3P AC380V±3%, 3P AC440V±3%												
	Frequency	50/60Hz±0.1%												
	Waveform distortion	≤3%												
	Overload capacity	1min (1.25 times rated load)												
	Efficiency	≥95%												

Type	VFP				
Communication function	RS485, CAN				
Noise	≤75dB				
IP grade	IP22 (Indoor) , IP54 (Outdoor)				
Operating environment	Temperature : -10~50℃, Humidity : ≤95%, Altitude : ≤1000m				
Indoor machine size (Width×High×Depth) (mm)	1400×2100×800	2200×2300×800	4000×2300×800	6000×2300×1300	8200×2300×1300
Outdoor machine size (Width×High×Depth) (mm)	/	/	5100×2896×2438	6058×2896×2438	12192×2896×2438

► Model naming

Variable frequency power supply	VFP-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Input voltage:	38-380V; 44-440V; 48-480; 58-580; 69-690V; 10-10KV; 13-13KV			
Output voltage:	38-380V; 44-440V; 69-690V			
Output capacity:	Number (X kVA)			

► Selection description

For example: VFP-3844100

It means that the input voltage of VFP type variable frequency power supply is AC380V. The output voltage is AC440V, and the output capacity is 100kVA.

► Functional block diagram

